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TABLE OF CONTENTS

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THE DUTY OF THE PHYSICIAN TO THE PUBLIC AND HIS RELATION TO THE LOCAL BOARD OF HEALTH.*

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EVERY physician has certain duties and responsibilities which he owes to the community in which his work lies, and while these are often not so well understood as those which he owes to his patients, they are none the less important; indeed, so important are they that they have been made the subjects of legal enactments and penalties have been imposed for failure to perform them properly.

Physicians often fail to realize the importance of these duties to the public and the reasons for which they have been imposed; and too frequently look upon them as unnecessary burdens, which are of no value to anyone. This, of course, is an entirely erroneous view, as the information which they furnish is the basis for immediate protective action and for permanent vital statistics, which are of value to the contemporary generation and are preserved for consultation and comparison by future generations.

The work of the physician brings him in close contact with the local board of health, and in the last analysis they are both parts of a great machine, working for the benefit of the public, and it goes without saying that the more perfectly and smoothly they work together the better will be the results.

The relation of the practicing physician to his patients is very close and they naturally look to him for instruction and information upon matters relating to health and disease, and it often happens that the information that he gives them in cases in which the local board of health must act does not agree with the information given by the board of health or its agents. This, of course, is due to lack of familiarity on the part of the physician, as to board of health procedure, but it results in making the work of both more difficult, because one of two things must happen: either the patient, relying on his physician, considers that the board of health is acting arbitrarily and harshly, or the latter, having to contradict the statement of the physician, may raise a doubt in the mind of the patient as to his doctor's ability and knowledge, and neither of these benefits either party.

The local board of health is both willing and anxious to work in the closest coöperation with physicians and to avail itself of their aid and assistance and to aid them in any way that it can, for they are both working for the benefit of the public and it naturally follows that they should work together.

*Read at the Annual Meeting of the Middlesex South District Medical Society.

It should be clearly understood that the local board of health, while it has great powers and may sometimes seem to exercise those powers in an arbitrary manner, in reality does not do so, for it must obey the law exactly as a private citizen or group of citizens must obey it, and many of its acts, which seem to the outsider to be arbitrary or even an invasion of his personal rights, are done simply because the law directs that they shall be done, and, furthermore, imposes a penalty for failure to do them.

This is especially true of many acts in which the local board seems to act in opposition to the physician, or in which it bothers him for what seems to him to be unnecessary details; the law directs that it shall do as it does and that the information asked for shall be obtained and recorded, and the board is trying to obey.

It should be clearly understood that no board of health wishes to proceed against a physician legally, for such a course while it may obtain the result desired in that particular case, is sure to breed ill feeling, which, of course, would be detrimental to the proper relation between them, and so, the board prefers to exhaust every other means to achieve its object and to appeal to the courts only as a last resort, believing that if it can accomplish its end by persuasion rather than by force, it will have made a friend or, at least, will not have made an enemy and that, in the future, the physician, who has probably been careless, through lack of understanding, will better realize the situation.

The writer believes that whenever friction seems to exist between the practicing physicians and their local boards of health it is due, in great measure, to a misunderstanding of the relation which they should bear to each other, for it is evident that they should hold the closest relation and coöperate in every way.

This close relation is all the more necessary at the present time when so many agencies are trying to interfere with the work of each by curtailing the independence of the physician and usurping the functions of the board of health.

In this State, at least, the right to practice medicine is given by law to the registered physicians who, before they are permitted to exercise this right, are required to show that they are properly qualified to do so, while the supervision of matters bearing upon the health of the general public has been entrusted, also by statute, to boards of health, so that the registered physicians and the boards of health, together, are the legal custodians of the health of the individual and of the public and both draw their authority from the State.

It is unnecessary to point out the many ways in which interested and ignorant persons are trying to break down the barriers which protect the individual from unscrupulous charlatans who wish to exploit him when he is sick and trying also to lessen the faith of the public in the proper custodians of its health, but it is evident that one way in which these attacks can best be met is by having these two great organizations, the practicing physicians and the boards of health, strenghten the intimacy of their relations and show an unyielding front to those who are trying to encroach upon their legal rights, and interfere with them in the discharge of their legal duties.

The object of this paper is to discuss certain of the public duties of the physician, showing, in so far as possible, why they are required; pointing out the necessary divergence of viewpoint between the physician and the board of health in dealing with certain matters; showing, in some detail, the proper procedure of each and how by each one aiding the other, certain points of friction may be smoothed away and the coöperation between the two may be increased.

The three most common occasions when the physician's duty to the community must be exercised are: when he has officiated at the birth of a child; when one of his patients is ill with a disease dangerous to the public health; and when one of his patients has died.

For some reason many physicians seem to be more careless in the first instance than in either of the others, although the proper procedure in the case of a birth is fully as important as in either of the others.

BIRTH REPORTS.

In Massachusetts reports of birth must be made to the city or town clerk of the place where the birth occurred and a copy of the report is forwarded to the local board of health by the clerk.

Gen. Laws, Chap. 46, Sect. 3, requires a physician, within 48 hours of the birth of a child at which he has officiated, to send to the city or town clerk a statement giving the date and place of birth, the street number, if any, the number of the ward, if in a city, and the family name. This is the preliminary report.

The same section requires every physician to make and keep a record of the birth of every child in cases in which he was in charge and, within 15 days after the birth, to mail or deliver to the clerk or registrar of the city or town where the birth occurred a report of the birth, stating the date and place of birth, the name, if any, of the child, its sex and color, the name, age, occupation and residence of each parent (including the street number, if any, and the ward number, if in a city), the maiden name of the mother and whether or not he personally attended the birth.

If the child is illegitimate the name and facts relative to the father must be omitted, except upon the written request of both the father

and the mother, which must be filed with the return.

A physician is entitled to a fee of twenty-five cents for each birth so reported and is liable to a penalty of twenty-five dollars for failure to make the required report.

Many physicians are in the habit of waiting until the end of the year before making any returns of births and then sending in a long list. While this habit is preferable to failing to send in any birth returns at all, it is objectionable for two reasons; it fails to comply with the law and it may interfere with the work of the board of health. Many boards of health now maintain an infant welfare service with the object of reducing infant mortality and often its only way of learning of the new born child is through the reports of births sent down from the office of the city clerk or registrar and it is evident that if a physician delays sending in the reports of births until some of the children are several months old, the infant welfare service may be badly crippled.

The amount of information asked for in a properly filled out birth return may seem, at first, to be excessive but a little reflection will show that it is not so in reality, for a birth certificate is of the utmost importance and grows more so with the lapse of time.

It may be comparatively easy for a person to prove the facts about his birth when one or both of his parents are alive and able to testify in his favor, but after their decease it may be by no means so easy, and yet many very important matters may depend upon being able to prove one's descent. A properly recorded birth certificate may sometime save a person from endless trouble; his citizenship, his right to inherit property, and not only his but that of his children also, may depend upon his being able to prove his descent, and the easiest, and, sometimes, the only way to do this may be by means of a properly made out and properly recorded certificate of birth, for the law says that a record of birth on file in the office of the city clerk or registrar is *prima facie* evidence of the facts recorded.

A birth certificate, therefore, is a legal document which may be of the utmost value to the person interested and every physician should use the greatest care in making one out in order that no injustice may be done, through his error, to the newborn child. He should be sure that the facts asked for are correctly and legibly set down and if he subsequently discovers that he has made an error, he should see to it that the error is corrected.

Forms for reporting births (together with stamped and addressed envelopes) may be obtained from the city or town clerk and every physician should be sure that he has a supply on hand in order that he may do his duty to his new patient by reporting the birth.

It is not a difficult matter: a few blanks to be filled in, the report signed and dropped in the nearest mail box, and it is done! Five minutes have been expended and an important duty accomplished!

In the case of plural births, the number of children and the order of birth should be indicated.

A stillbirth in the case of a viable child should be reported as a birth and a death; that is, a birth report and a certificate of death should be made out and filed and the phrase "stillbirth" should be added to each.

An illegitimate stillbirth should be reported to the Medical Examiner unless the physician is absolutely sure that there can be no suspicion that it was due to a criminal act. Doubtful cases should be referred to the Medical Examiner in any event, as the physician may thereby save himself future trouble if it should subsequently appear that it was due to criminality.

DISEASES DANGEROUS TO THE PUBLIC HEALTH.

The responsibility of a physician to the public when he knows that one of his patients is ill with a disease dangerous to the public health is very important and is imposed so that the rest of the community may be protected against the danger of infection. Under these circumstances the attending physician becomes an assistant of the local board of health.

The points of view of a physician and the board of health differ somewhat when confronted with a case of a disease dangerous to the public health, in that the former is chiefly interested in the welfare of his patient, that is in the individual, while the latter is more concerned in the welfare of the general public.

This being so, it follows that the physician and the board of health, working in perfect accord, should constitute a very strong barrier against the spread of infection, because the former, acting as a first line of defence, discovers the presence of danger in the individual and the board of health, learning of its existence through the aid of its assistant, the physician, can proceed to take the necessary measures to prevent its spread.

Further than this, the physician can act as a bond of union between his own patients and the local board of health by explaining to the former the reason for certain acts of the board; acts which often seem to the individual to be arbitrary and unnecessary, simply because he does not understand the reason for them.

In this way the accord between the local board of health and the general public can be increased and the efforts of the former made more efficient by the coöperation of the latter, while the physician and the board of health, understanding more fully each other's point

of view, can work together without friction in their endeavor to protect the health of the community which they both serve.

DUTIES OF PHYSICIANS.

Gen. Laws, Chap. 111, Sect. 6, gives to the State Department of Public Health the power to declare what diseases shall be considered to be Diseases Dangerous to the Public Health and when a physician knows that his patient is ill with such a disease his responsibility to the public, under the law, begins automatically.

Gen. Laws, Chap. 111, Sect. 111, requires a physician who knows that a patient whom he is called upon to visit is ill with a disease declared by the State Department of Public Health to be a disease dangerous to the public health, immediately to give notice thereof to the board of health of the city or town in writing, over his own signature.

The object of this requirement is to give the board of health of the place where the patient lives, knowledge of the existence of the case, in order that it may take such means as are proper for the protection of the other members of the family and the general public.

In order that the local board may have as full knowledge of the case as possible, the Department of Public Health, acting under the authority of G. L., Chap. 111, Sect. 7, has ruled that the report must contain certain facts, among which are the name of the patient, his age, his address and the disease with which he is ill.

It is generally considered by the local board of health that "immediately" means within 24 hours of making the diagnosis. For convenience in reporting, the local board furnishes forms for reporting the necessary facts. These forms, which may be post cards or some other form, may be obtained from the local board of health upon request.

In order to aid the local board and make its record more complete the report cards often ask for more information than is required by the State Department of Public Health. This extra information often aids the board very materially in its work, and while not absolutely required is very helpful and should be given whenever possible.

Physicians should be very careful to report every case which they see, even though they believe that the case has already been reported by another physician. If it has been so reported the records of the board will show it and prevent a duplicate record, and in any event the physician has complied with the law. In addition the board will know who has charge of the case if a change of physicians has occurred.

In practice, certain modification of the above method of reporting which is in the line of increased efficiency, is allowed by boards of health. For instance, in cases in which the physician is anxious to have his patient removed to an isolation hospital as soon as possible, most boards will accept and act upon a telephone report. This report, however, in no way releases the physician from the legal requirement of making a written report of the case; it is simply allowed for the purpose of saving time in getting the patient to a hospital and the legal written report must be made as required.

DUTIES OF THE BOARD OF HEALTH.

G. L., Chap. 111, Sect. 104, states the duties of a local board of health when a disease dangerous to the public health exists in the city or town which is under its care.

The power given by this section is very broad but is given solely for the protection of the public against disease, and it is very evident from the many decisions of the supreme court, bearing upon the interpretation of this power, that the board cannot act arbitrarily in these cases,—as many persons seem to believe,—but must obey the law and act within the law in order to accomplish its object.

Under G. L., Chap. 111, Sect. 122, the board of health can make regulations to prevent the spread of disease which, of course, means that it can make regulations in regard to the conduct of persons ill with a disease dangerous to the public health, defining the method and duration of the isolation, if any is imposed; how persons shall be released from isolation after recovery; what precautions, if any, shall be taken to protect the public from danger during and after the occurrence of such diseases and what, if any restraint shall be imposed upon non-immune contacts.

Under G. L., Chap. 111, Sects. 95-97, the board can remove a person who is ill with a disease dangerous to the public health to a hospital, forcibly if necessary, if it considers such removal necessary for the protection of the public.

In practice, there is a curious limitation to this power of removal, which is that the board cannot force a person who is ill with tuberculosis, which is a disease dangerous to the public health, to go to a hospital against his will. The law says it can but for some reason the courts refuse to act, no matter how much of a danger the patient may be to others.

Under G. L., Chap. 111, Sect. 15, when a person in a family or house is ill with a disease dangerous to the public health, the children in that family or house cannot attend a public school until the local board of health shall certify that it is safe for them to do so.

In practice, the board of health usually rules that this exclusion shall apply only in certain diseases and allows the well children in families in which other diseases may occur to attend school subject only to supervision by the school physicians.

The procedure differs somewhat in different

municipalities, but usually the exclusion applies only in the case of diphtheria, measles, mumps, scarlet fever, smallpox, whooping cough, and sometimes poliomyelitis, with certain exceptions in regard to those immune to measles, mumps and whooping cough.

In municipalities in which the immunity rule, so-called, is in effect, the proof of immunity consists in a properly recorded report showing that the child claiming immunity has had the disease in question. In this way a premium is placed upon proper reporting of these diseases.

In the future, the immunity rule may be modified to include those shown by the Schick test to be immune to diphtheria and those immunized by toxin-antitoxin and subsequently showing a negative Schick, provided they are not carriers.

It is also customary for the board of health to keep non-immune contacts out of school until the expiration of the appropriate period of incubation after the last known exposure, so that the removal of the patient to a hospital materially reduces the period of exclusion from school for the non-immune contacts who do not develop the disease.

At the expiration of the period of exclusion, the well children are given permits allowing them to return to school, provided they show no signs of disease. These permits are issued upon the request, either of the attending physician or of the parents, and should be obtained before the child attempts to return to school.

HOW THE BOARD OF HEALTH ASSISTS PHYSICIANS.

As one of the important functions of a board of health is to protect the public from the danger of infection, it is evident that it can best do this by knowing, as soon as possible of the occurrence of any case of disease, and one way in which it can do this is by aiding physicians in making a correct and rapid diagnosis. For this reason the local board of health usually maintains a laboratory for examining and reporting upon specimens sent to it by physicians It also furnishes the necessary outfits for taking these specimens and, usually, establishes stations in various localities where they may be obtained. These outfits after use may be sent direct to the laboratory or may be returned to the station for collection and transmission later by the board.

As soon as the specimen has been examined, which is usually the next morning, the laboratory reports the result to the physician's office, usually by telephone. Some laboratories will make a rapid examination of these specimens upon request and report the result.

The scope of these laboratories usually varies somewhat with the size of the municipality and the varieties of work required to be done; but in smaller places, if the physician wishes a report on an unusual specimen which is beyond the scope of the local laboratory, the aid of the State laboratory can be invoked either directly by the physician himself or through the local board.

Owing to the fact that some of the media used do not keep well, it is advisable not to attempt to carry them about but to obtain them fresh from the stations when required.

The local board of health also keeps on hand for distribution to physicians, a supply of the various prophylactic and curative sera prepared by the State.

It can also, as a rule, furnish information as to the prevalence of any particular disease in any section of the municipality, when such information may be of value to physicians, although, of course, this depends in great measure upon the promptness and completeness of the reports received.

It can also furnish information as to the prevalence of disease in any neighboring municipalities or in more distant parts of the State which may aid physicians in making a diagnosis and, finally, is always ready to aid physicians in any way that it can, in anything connected with the diagnosis and disposal of doubtful cases.

Physicians should consider the local board of health as a sort of clearing house for information on any matters connected with diseases dangerous to the public health.

Under G. L., Chap. 111, Sect. 95, the board of health must provide hospitals for the care and treatment of persons ill with a disease dangerous to the public health, when such care and treatment seems necessary for the protection of the public.

This does not mean that it must necessarily furnish such care and treatment to all persons, free of charge, for G. L., Chap. 111, Sect. 116, expressly provides that the expense of such care and treatment shall be paid by the patient himself, or by his parents, or guardians, if he or they are able to do so. On the other hand, it does not mean that if the patient, or his parents, or guardians, are unable to pay for hospital care, they cannot obtain it, for the board of health will, of course, bear the expense and look for repayment in other ways, where possible, or else bear the whole expense out of its own appropriation. The details of procedure in these cases are rather technical and beyond the scope of our present subject, the main point being that no one need be deprived of hospital care when such care is necessary, just because he is unable to bear the expense.

The board of health usually has one or more ambulances for the transportation of patients to the isolation hospital and such patients must not be transported in any other way without the consent of the board. Neither must such patients be moved from one municipality to an-

other without the consent of the boards of health of both and, if it is necessary to pass through another municipality, the consent of its board must be obtained also. However, this last requirement is, as a rule, not strictly enforced.

HOW PHYSICIANS CAN ASSIST THE BOARD OF HEALTH.

Every physician can aid the board of health in protecting his own patients and the public from infection by reporting his cases promptly and fully. These reports constitute the basis of the records of disease which every board of health is required by law to keep and physicians can help greatly by being sure that all the facts asked for are correctly and legibly set down. In certain diseases it is not necessary for the board to visit the case and it relies on the physician's report in making its record; if the facts are incorrect, the record is incorrect also, and at some future time the patient who relies on that record to prove that he is immune and to be permitted to finish his course at school, in order to be promoted or even to enter college, may be unable to do so because his physician, either through carelessness or illegibility of writing, due to haste, was responsible for an incorrect record. For this reason, if for no other, physicians should be careful to put down the correct name of the patient. "Mr.," "Mrs.," "Miss," "Junior" or "Baby," all of which are taken from report cards, followed by the family name, do not constitute a proper report and simply mean that the board must correct the report in some way, either by telephoning the physician or visiting the case, any of which entail unnecessary work which could have been avoided if a proper report had been made at first.

Physicians can also aid the board in controlling the spread of disease by realizing that a laboratory report is at best only a confirmation of the clinical diagnosis and that a negative result in the face of positive clinical symptoms should not make them doubt their own conclusions based on the clinical picture which made them ask for an examination.

If the laboratory report is negative, when they think it should be positive, another examination should be requested and the patient brought under treatment at once. If the report continues negative and the physician believes that his patient has the disease in question he should report the case, as the board will always take a clinical diagnosis.

In all cases of doubtful diagnosis it is advisable to refer the decision to the board of health and until the diagnosis is made, to handle the case as if it were the suspected disease. If it subsequently appears that it is not, the restrictions can be removed. It is far better to do this than to make a negative diagnosis which may later be upset by the illness of other members of the family and by calling in the board of health in such cases, the physician is relieved of any responsibility for anything which may subsequently occur.

Physicians can also aid the board of health by reporting, unofficially, any cases of rare or unusual diseases which they may meet. This, of course, is not required by law and is entirely voluntary but will be welcomed by the board as giving more complete knowledge of morbidity conditions.

PROCEDURE WHEN A CASE OF A DISEASE DANGEROUS TO THE PUBLIC HEALTH OCCURS.

As soon as the physician has made his diagnosis he should at once make the required report by mailing the properly filled-in form to the board of health or, if it is a case in which he thinks the board should act promptly he should report by telephone and send his written report later.

On receipt of the report, if it is a case in which action by the board is necessary it is visited as soon as possible in order to decide upon its disposal. If home conditions are satisfactory, instructions in regard to the isolation of the patient are given and a room is picked out for his use. A placard is placed at the entrance of the room and others at the front and rear entrances of the house. These placards must remain in place until removed by the board.

Under G. L., Chap. 111, Sect. 95, the house is now a hospital and all persons residing therein or connected therewith are subject to the regulations of the board of health and so remain until the cards are removed and the patient released. The above applies also to the physician and nurse attending the case.

In practice it is not customary to quarantine the adults of the family or to interfere in any great measure with their freedom of action unless they are school teachers or handlers of food and even this, as a rule, is done only in certain diseases. In this event they are usually required to leave the house during the continuance of the disease and, if they are non-immune, refrain from work during the appropriate period of incubation. If they remain at home they must cease work until such time as the board shall certify that it is safe for them to resume.

The well children must remain away from school until the appropriate period of incubation has elapsed since the last known exposure, —with the exceptions previously referred to, in the case of immunes in certain diseases.

If the home conditions are not satisfactory or the risk to the other members of the family seems to be too great, if the patient remains at home, he is removed to a hospital, either with

the consent of the family or under the provisions of G. L., Chap. 111, Sect. 95-97, if the consent is withheld.

In dealing with cases of tuberculosis the procedure is somewhat different. As these cases are usually long drawn out and because, at present, public sentiment will not countenance isolation of a patient with tuberculosis, the board of health usually employs one or more nurses who visit each case periodically and see that the patient is taking proper care of himself. They also keep the board informed as to his condition; as to the necessity of extra nourishment; as to the condition of other members of the family, and as to any other matters connected with the case which the board should know. In cases in which the attending physician does not wish the nurse to visit a patient, he should so state, but in such cases he should keep the board informed, from time to time, as to the condition of the patient.

The nurses do not, as a rule, do ordinary bedside nursing, but many boards will arrange to furnish it, if requested, in special cases when the patient cannot otherwise be properly cared for.

If the physician wishes to send his patient to a state sanatorium he can obtain the necessary form from the board of health. This should be filled in by the physician and returned to the board to be forwarded to the State Department of Public Health. This procedure is often not followed by physicians, many of whom obtain the forms from the sub-division of tuberculosis and forward them directly, without notifying the local board, but this is objectionable from the point of view of the local board, which should, at least, have knowledge that the application has been filed.

No attempt should be made to answer the questions in regard to settlement which appear upon the present form of application, as that is sometimes a very difficult matter to determine and should be left to the authorities, who are familiar with the general run of settlement laws.

When the attending physician is of opinion that his patient, who has been ill with a disease in which isolation has been imposed, is ready for release, he should so notify the board which will then visit the case, provided the minimum period of isolation has elapsed, and decide if it is safe to remove the restrictions. This requirement is in no way a reflection upon the ability of the physician to decide the question, but is imposed only because the board, being responsible for the protection of the public from the danger of infection, must necessarily have the final decision as to the propriety of allowing the patient to be released. It also relieves the physician from any responsibility in the event of the occurrence of return cases.

For the same reason the final culture for release after diphtheria must be taken by the board and examined at its own laboratory.

The attending physician should take the first release culture when he considers it proper to do so and if this is negative, the laboratory reports the result to the board, which then takes the second release. If this is negative, the board releases the patient and removes the cards from the house. If, however, it is positive, the physician is notified and must take another "first release" when he sees fit. When he again gets his negative "first release," a second release is taken by the board. This procedure is continued until the required number of consecutive negatives are obtained and the patient is finally released.

In cases of prolonged positive results, many boards will make virulence tests and release the patient if the organisms are shown to be nonvirulent.

In diseases in which isolation is not imposed, the board usually considers the patient well at the expiration of the usual period of duration of the disease and so records it.

Few boards of health at the present time do chemical terminal room disinfection, for it has been fairly definitely shown that infection is not transmitted by means of rooms or infected articles, also that ordinary disinfection, as done by a board of health, fails to destroy organisms of disease.

Sunlight and fresh air *after* the disease and concurrent disinfection of the patient's discharges and body linen *during* the disease, together with careful examination of the patient himself before release, and directions as to certain precautions after release, constitute the best methods of preventing the spread of infection.

DEATH CERTIFICATES.

Massachusetts has adopted the standard form of death certificate and G. L., Chap. 46, Sect. 9, sets down the facts which must be given by the attending physician after the death of his patient, in order to constitute a legal certificate of death. A penalty of not more than fifty dollars has been imposed for wilful failure to furnish a proper certificate of death.

Under this section, a physician shall, after the death of a person whom he has attended during the last illness, furnish a standard certificate of death, stating to the best of his knowledge and belief, the name of the deceased, his supposed age, the disease of which he died, *defined so that it is capable of classification under the international classification of causes of death,* where contracted, the duration of the illness, when last seen alive by the physician and the date of death.

In the case of a child born dead, both the birth and death shall be recorded and the word

"stillborn" shall be entered in both the record of the birth and death.

A list of the international classification of causes of death can be obtained upon request from the Bureau of the Census at Washington.

Care should be taken that the required facts are properly set down as otherwise the certificate may be returned for correction or held up until the omissions are rectified because, under the law, a burial permit shall not be issued until there shall have been delivered to the board of health a satisfactory statement containing the facts required by law to be returned and recorded.

It would seem almost unnecessary to say that a certificate of death must be written in ink, were it not that instances have been known when a certificate made out in pencil has been presented.

Certain causes of death require explanation in order to be satisfactory and certificates giving such as the *sole* cause are liable to be returned for further information. The reason for this is that these causes may be the result of other causes which may require investigation before a burial permit is issued or it may be that the death cannot be properly classified until the antecedent cause is known. It is enough for the physician to know that his patient died of "bronchopneumonia," "peritonitis" or any other cause and he so certifies but, in order to classify the death properly, the recording officer must know if the bronchopneumonia was primary or due to measles, whooping cough, or any other disease, because a death from bronchopneumonia following measles or whooping cough is, from the view point of the recording officer, a death from whichever of these was the antecedent disease and must be so recorded. The same is true of "peritonitis." It is necessary to know if it was due to operation, to injury or to childbirth, and whether or not the latter was due to some criminal act.

Terminal conditions or symptoms, such as "hemorrhage," "dropsy," "acidosis," etc., are unsatisfactory causes of death and the disease causing them should always be given.

Any cause of death which can be due to a condition connected with childbearing, in the case of a woman, married or single, of childbearing age, should have some indication as to whether or not it was so due. The words "puerperal" or "non-puerperal," as the case may be, added to the cause of death, will make this clear.

In making out a certificate of death it will be of assistance to the board of health if the information asked for is so complete and so definite that there can be no doubt as to its meaning. It is not necessary to give a complete clinical diagnosis but it is necessary to give, in as few words as possible, the information which will show the disease or diseases of which the patient died.

A physician should not sign the death certificate of a person whose death or last illness was due to any form of external violence. No matter how long a time may have elapsed since the traumatism nor whether the physician has attended the patient in an ensuing illness, if he thinks that the death was due, directly or indirectly to the traumatism, he should not sign the death certificate, but refer the case to the medical examiner.

Like a birth certificate, a certificate of death is a legal document and part of the permanent records of the municipality in which the death occurred and for this reason, if for no other, should be correct. Further than this it is a part of the permanent records of the Commonwealth and one reason why boards of health sometimes hold up a death certificate and request further information is to save the physician future trouble. If the board passes an improper death certificate the State may later request to have the missing information supplied, and it is always easier to obtain correct information when the facts are fresh in the memory than it is after the lapse of time when the recollection has become dulled.

GANGRENE OF THE LUNG.

REPORT OF A CASE.

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With the advance in recent years in Lung Surgery there has been a general tendency toward more radical treatment. Especially in chronic abscess of the lung, new operative methods, necessarily radical and of considerable gravity, have been worked out, of which the most recent is that practised by Lockwood at the Mayo Clinic. On the other hand, since the large number of cases of pneumonia, and consequently of complications such as lung abscess that have occurred in the epidemics of the past few years, it is generally accepted that as a rule posture drainage and general medical treatment should first be attempted. This is often successful. Where medical measures have failed, the surgical method commonly resorted to has been the so-called two-stage operation. The writer's experience has been largely confined to the two-stage operation for the more acute abscesses. This procedure, especially if under local anesthesia, can be carried out with a minimum of shock.

The success in which the method can be employed on an extremely sick patient is illustrated by the following case:

Frank L., age 30, was admitted on March 16,

1922, to the Boston City Hospital, service of Dr. Francis Peabody, with the following history:

F. H.—Negative.

P. H.—Several attacks of tonsillitis in the past four years. March 22nd tonsillectomy performed under ether. On account of hemorrhage the tonsillar wounds were packed and the patient kept in the hospital three days.

P. I.—Eight days ago, or six days after operation, patient complained of fever and cough, raising foul-smelling sputum. During past few days has had pain in the right upper chest with more severe cough and dyspnea. On admission temperature 104.2, pulse 100, respiration 36.

P. E.—W. D. & N. Man. Heart negative. B. P. 120-65. Haemoglobin 80 per cent. Leucocytosis 12,000. Examination of the chest showed dullness and diminished breathing in the right upper chest, front and back.

Diagnosis of lung abscess was made and the latter confirmed by x-ray taken soon after entrance. Under medical treatment the patient's condition gradually improved, temperature coming down to normal. At the end of the third week, however, there was a rapid change for the worse, temperature rising to 103, pulse rising. Patient raising large amount of foul sputum. Rapidly losing ground. By physical signs and x-ray the abscess was located in the upper right lobe and evidently nearer the front than the back of the chest. At this time, there was noticeable clubbing of the fingers.

FIRST STAGE.

On April 17, 1922, as the patient was very weak, cyanotic, respirations 50 and pulse 150, the operation was performed without moving the patient from his bed. After preliminary morphine, one inch of the fourth rib in the right anterior axillary line was resected, under novocaine. A small incision was made in the pleura and the lung found adherent under the median part of the incision. Enlargement of the incision in the parietal pleura showed the lung to be free under the axillary part of the incision and the pleural cavity was opened, therefore, at this point. Gauze was packed into the opening after a small amount of air had been sucked into the pleural cavity. Patient's condition was too serious for anything further than aspiration through the adherent portion of the lung, two or three c.c. of foul pus and air being drawn into the syringe. Wound packed and dressing applied. On the following day the temperature fell and there was a marked diminution in the amount of cough and of sputum raised, probably caused by air having entered the chest and causing partial collapse of the lung. Four days later patient's condition had improved enough for the second stage of the operation.

SECOND STAGE.

After infiltration, with novocaine, of the wound margins, the pleural packing was removed and lung found adherent. Large empyema trocar was inserted into abscess cavity and a catheter drain introduced, wound closed with iodoform gauze wick beside the drain. Moderate amount of pus draining through tube, and on coughing, air was forced from the abscess cavity.

April 25, temperature and pulse lower, but neither air nor fluid was coming from the tube, which evidently had become plugged. It was, therefore, removed. Its removal was followed by the appearance of a finger-like projection of grayish slough, with black mottling, evidently necrotic lung tissue. On drawing this out a long slender mass of necrotic lung tissue about seven inches in length followed, after which air and pus issued from the sinus. Following this, improvement continued until the fourth week when temperature rose, with onset of left thoracic pain, and patient was found to have a left sided pleurisy. Two weeks later fluid had accumulated and aspiration brought 300 c.c. of amber colored fluid. Four days later temperature 102, pulse 136, respiration 36. Tapped again and 500 c.c. of pus drawn off, which had the same foul character as that from the lung abscess. Culture showed streptococcus haemolyticus. White count, 26,000.

June 9, 1922. Drainage of left empyema, closed method, followed by Dakin treatment. Patient made a good recovery and on June 26 both wounds were healed and he was discharged. The patient was seen in October, 1922, had gained 30 pounds in weight and had returned to his occupation as a plumber.

COMMENT.

First: The case presents certain features of interest. First, after showing improvement under the medical treatment for three weeks the patient suddenly became worse, showing signs of toxemia, but the process itself in the lung had shown no definite change. It is presumable that either septicemia suddenly developed, or a secondary infection, the nature of which was not made out.

Second: The method of operation selected, doing the operation in more than one stage and without moving the patient from his bed. In this case anything more radical or involving any greater shock certainly would have been doomed to failure. The empyema trocar, after the pus has been located, is the simplest and most satisfactory means of introducing a drainage tube into a comparatively superficial abscess.

Third: The fortunate removal of the large gangrenous sequestrum from the lung undoubtedly conduced, more than anything else, to the patient's recovery. Even supposing his resistance and strength had made it possible, it would surely have been a long and exhausting process for the patient to have gotten rid of the gangrenous mass, large enough to fill a teacup, by

expectoration of the liquefied tissue. It was too necrotic for microscopical examination. Cultures taken from the sputum showed only pneumococcus. No putrefactive anaerobes were isolated. That these bacteria were active, even after the removal of the gangrenous lung tissue, appears probable from the fact that the empyema fluid from the opposite chest had the same foul odor as the pus from the original abscess. Whether or not a small subpleural abscess was present throughout, in the left lung, which later broke into the pleural cavity, is a question.

Fourth: As to the etiology. The onset with fever and cough points to aspiration pneumonia, with infection by saprophytes from the tonsils, rather than a venous thrombus. An embolic process extensive enough to have caused the production of so large a sequestrum would presumably have been accompanied by more pain and dyspnea at the onset.

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PULMONARY ABSCESS FOLLOWING TONSILLECTOMY, WITH REPORT OF A CASE.*

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A condition first met after twenty-odd years of throat work, and a record of several thousand tonsillectomies without a dangerous accident or sequel, is worthy of discussion and record. During the past few years there has accumulated a considerable literature on the subject of pulmonary abscess following tonsillectomy and with warnings fresh in mind I am sure most operators have approached their work on guard, and more than ordinarily careful in their choice of technique and its careful execution.

Such at least has been the writer's attitude, and he had congratulated himself on the record referred to, when lo, his peace of mind was rudely disturbed by the case to be later reported which furnishes the subject for this discussion.

Having recognized pulmonary abscess as a possible sequel to tonsillectomy it certainly behooves us to investigate thoroughly the possible reasons and causes for so undesirable a development, and to so choose and perfect our technique as to reduce this risk to a minimum.

PHASES OF PROBLEM TO BE CONSIDERED.

These causes may best be investigated, according to Lyman[1] by a consideration of the following factors: (1) general condition of the patient; (2) anesthesia; (3) technique, and (4) special infective agents.

*Read at the regular April meeting of the staff of Noble Hospital, Westfield, Mass.

GENERAL CONDITION OF THE PATIENT.

It will be generally admitted that tuberculosis, particularly of the pulmonary type, with pus-producing cocci in the sputum, increase enormously the liability of this sequel. Nephritis, diabetes and chronic alcoholism also increase the risk. Other conditions are infections of the accessory sinuses, bronchiectasis, chronic bronchitis, acute infections, delayed blood coagulation time, high blood pressure with advanced cardio-vascular changes and lues. Chipman[2] has recently drawn attention to the fact "that the mouth and pharynx comprise one of the most extensively infected fields for operation, and yet but few make any attempt to cleanse and sterilize the teeth and tonsillar region." There were more lung abscesses reported during 1919 than during several years preceding the influenza epidemic. It was the hemolytic streptococcus that was the prevailing organism found in the tonsils during and after the influenza epidemic. Nichols and Bryan[3] in 1918 recovered this organism from the crypts of 75 per cent. of one hundred pairs of extirpated tonsils and Cajigas[4] in 1919 found hemolytic streptococci present before operation in 170 out of 200 cases, or 85 per cent. of all patients examined. Many observers report hemolytic streptococci in apparently normal throats in from 4 to 30 per cent. of patients examined, and as Cajigas suggests "it is possible that if more attention were given to streptococcus infection of the tonsils, the result would be a smaller number of lung abscesses."

ANESTHESIA.

Fisher and Cohen[5] in 1921 showed that of 76 cases of lung abscess following tonsillectomy which they collected, 74 were done under ether, and 2 under local anesthesia. That so large a proportion of cases of lung abscess occur after the use of ether would seem to indicate the greater safety of operation, so far as pulmonary sequelae are concerned, under local anesthesia. However, we must not deceive ourselves and lose sight of the fact that the proportion of tonsillectomies under local anesthesia is small compared with the number being done daily under general anesthesia in our large clinics. It is probable, though, that ether anesthesia very materially adds to the risk of pulmonary abscess and it must be our aim to safeguard our patients from this danger. General anesthesia will continue to be used for children and demanded by some adults. How can we avoid pulmonary abscess after tonsillectomy under ether? What is the exciting cause? Guathmey[6] in a recent article makes this statement: "Whether local or general anesthesia is employed, the cause is the same, viz., aspiration of the blood, infected by the cheesy or milky bacteria-laden secretions squeezed out of the tonsil at the operation." W. F. Moore[7] states that "Opinion is divided as to the cause of lung abscesses among three

modes of transmission of the infective material: (1) the blood stream; (2) lymphatic extension and, (3) direct aspiration." His work was undertaken to establish if possible the mode of transmission of the infective material. Two points bearing directly on this question were considered of fundamental importance: "(1) the time of the onset of symptoms after the operation, because he believed a blood stream infection would develop early, and a lymphatic extension would give an abscess in a longer time, and (2) the lobe of the lung affected." From the study of 202 lung abscesses following operations on the nose and throat Moore drew these conclusions: "(1) The vast majority of cases are of respiratory origin because of (a) time of development and (b) involvement of the lower lobes of the lung in 60 per cent. of the cases (41 per cent., right lower; 19 per cent., left lower) being almost the same relative incidence as in cases of inspired foreign bodies. (2) Pulmonary abscess occurs once in from 2500 to 3000 tonsillectomies. (3) Blood stream transmission of infective material occurs, but in a relatively small number of cases. (4) Lymphatic extension is a rare mode of infection. (5) The semi-recumbent and upright positions are not as free from this complication as has heretofore been supposed."

This question as to the mode of transmission of infection in these cases, whether due to inspiration of infective material or to the lodgement in the lung of infective venous emboli has been a subject of spirited discussion. Richardson of Washington and Lynah and Carter of New York seem to be agreed that very few cases are of embolic origin but are most always due to the inspiration of blood and infective material squeezed from the tonsils at the time of the operation. We should be glad to feel with Fisher and Cohen that lung abscess following nose and throat surgery is of embolic origin and that we can use general anesthesia with as great an assurance of safety as we can use local anesthesia, but the preponderance of opinion is that inspiration of infective material under general anesthesia is the chief exciting cause. My opinion is well expressed by C. L. Minor[8] in a recent article in which he states the belief that while the use of a general anesthesia is in a large measure responsible, it is to the desensitization of the fauces, epiglottis, larynx and trachea, caused by the anesthesia, that we must look for the origin of these cases. Cough is abolished and the respiratory tract is deprived of its natural protection, and the inspiration of infective material into the lungs is unopposed. Bronchial irritation is one of the chief objections to the use of ether and it probably plays its part in favoring the development of pulmonary abscess. Because of the fact that local anesthesia does not abolish the protecting cough it should become the anesthesia of choice where there are no distinct contraindications.

TECHNIQUE.

In his discussion of the errors of technique which may be causative factors Lyman names:

1. Excessive manipulation of the tonsils.
2. Undue laceration of the fauces.
3. Prolonged operations.
4. Deep anesthesia.
5. Failure to have head lower than the body during the operation (if done under general anesthesia).
6. Failure to guard against inspiration of blood between the conclusion of the operation and the complete recovery of consciousness.
7. Failure to use an efficient suction apparatus.
8. The manipulation sometimes necessary in controlling hemorrhage, and
9. The use of motor-driven ether apparatus.

From this discussion of the question of anesthesia for tonsillectomy we have arrived at the conclusion that aspiration of infective material while under ether narcosis is the chief exciting cause of pulmonary abscess. Let us consider errors of technique as outlined by Lyman, and discuss the technique developed over a long period of years and now used in our hospital.

ERRORS OF TECHNIQUE.

1. Excessive manipulation of the tonsils.

In children and adults who give a history of peri-tonsillar abscess it is our practice to remove the tonsil by clean dissection and snare, and in some cases in children, by finger dissection and snare. In all cases where practicable patients are seen at the office prior to operation and the contents of the tonsillar crypts evacuated. In old cases of peritonsillar abscess a careful dissection is done and the tonsil removed by snare.

2. Undue laceration of the fauces is constantly borne in mind and carefully avoided.

3. Prolonged operations are an annoyance, but the time element must be sacrificed to careful, consistent work.

4. Deep anesthesia. In our clinic we like patients thoroughly anesthetized and relaxed, and believe that quicker and more careful work can be done with less traumatism to the pillars of the fauces than when a patient is not relaxed.

5. Failure to have the head lower than the body during operation done under general anesthesia.

It is our custom to operate with the patient in the recumbent position. Occasionally we find it convenient to raise an adult to the semi-recumbent position. We have never operated with the patient in the upright position in this clinic. The writer had some experience with the upright position during his army service but returned to his original practice, feeling that in his hands at least the patient was safer. In view of our conclusion that pulmonary abscess following tonsillectomy is due chiefly to aspiration of infective material we feel with Richard-

son that the patient should be operated in the recumbent position with the head lower than the body. This procedure is supported by a preponderance of competent opinion and in the event of pulmonary abscess developing the operator will have the comfort this knowledge gives. It is the writer's opinion that the general adoption of the recumbent position for ether cases will reduce the cases of pulmonary sequelae.

6. Failure to guard against inspiration of blood between the conclusion of operation and complete recovery of consciousness.

No patient leaves the operating table until we are satisfied that all bleeding has ceased. Furthermore, when placed in bed all patients are placed in Sims' position and the nurse in charge instructed to watch for bleeding and to satisfy herself the patient is not swallowing blood. These are standing orders.

7. Failure to use an efficient suction apparatus.

Such an aspirator has been used in our clinic for many years and has come to be regarded as almost indispensable.

8. The manipulations sometimes necessary in controlling hemorrhage.

It is our custom to complete the tonsillectomy and then control hemorrhage. With the tonsils removed it would seem the chief sources of infection were out of the fauces and that the necessary procedures for the control of hemorrhage should proceed without hesitation.

9. The use of motor-driven ether apparatus.

For years we have for purposes of economy used a warm ether vapor apparatus operated by a foot bellows. We should be very glad to see a modern motor-driven ether vapor apparatus introduced into our clinic.

It may be of interest to review some points of our technique. The preparation for general anesthesia consists of a light meal the evening prior to operation, followed by castor oil at bedtime. No breakfast and an enema is the morning programme and in most adults morphin gr. 1-6 and atropin gr. 1-150 are given subcutaneously an hour before operation. Our patients, as far as practicable, are given for four days prior to operation, calcium lactate t. i. d. in doses appropriate to the age. The blood coagulation time is ascertained and the urine examined. The teeth are well brushed and the nose and mouth cleansed with warm alkaline antiseptic solution. The patient is now ready for the operation table where the hair is covered with a tightly drawn towel and fastened with towel clips. Warm ether vapor is then administered and when the patient is well anesthetized and relaxed the operation proceeds. The patient is in the recumbent position and continues to take the ether through nasal tubes which are long enough to pass into the pharynx. Operation is usually done by direct daylight, the headlight being only occasionally used. The aspirator is used throughout the operation by an assistant nurse and another nurse is in charge of the instruments. The general oversight of the operating room in our hospital falls to one of the assistants to the superintendent. She is present at operations and has charge of solutions and directs her nurse assistants. Tonsillectomy is done by dissection and snare and adenoids are removed by the La Force adenotome followed by careful grattage of the adenoid base with the gauze covered forefinger. The patient is then turned on his side and the nose and throat irrigated with hot normal salt solution. After being sure all bleeding has ceased the patient is taken from the operating room and placed in bed in Sims' position in charge of a nurse whose instructions have been noted. A hot acetyl salicylic acid gargle or alkaline antiseptic is used during convalescence, which in adults with bad throats is usually terminated in ten days.

SPECIAL INFECTIVE AGENTS.

Under this heading Lyman refers to the suggestion of Manges, Stout and Simpson, who called attention to the fact that several of these cases followed each other in quick succession in the same hospitals and that possibly some special infective agent was present at that time in those institutions. These cases are probably the exceptional ones and the average operator will do well to focus his attention on the perfection of his technique as the best means of lessening this largely preventable disease.

We summarize our conclusions as follows:

1. Pulmonary abscess following tonsillectomy done under general anesthesia is a real danger.

2. Its chief exciting cause is the aspiration of infective material into the lungs due to the desensitization of the respiratory tract which accompanies general anesthesia.

3. Where there is no contraindication local anesthesia should be the anesthesia of choice.

4. Where general anesthesia is used the preoperative toilet of the nose, throat and teeth, together with the recumbent position of the patient with head lower than body during operation, and the postoperative irrigation of the nose and throat with hot saline solution are important details of a careful technique.

5. Careful attention to the details of technique will allow the operator to approach tonsillectomy under general anesthesia with the liability of development of a postoperative pulmonary abscess reduced to a minimum.

The case report follows.

CASE No. 722. Miss D. H., 29, lives in Boston where she is employed as a private secretary. She was referred to me by Dr. G. V. Wager. She received her preparation for ether at the hands of her sister, a registered nurse, and we did not see her until the morning of operation at the hospital. It will be noted there was

no preliminary examination of her throat or toilet of the nose and throat prior to operation and the history I am able to give at this time was obtained long after her recovery from pulmonary abscess. There is nothing especially significant in the patient's personal history. She had measles at age of eight and has had frequent sore throats. She has had considerable work done in her nares by a well known Boston rhinologist for relief of obstruction. Otherwise her health has been fairly good. She was a slender, attractive blonde and impressed one as not being robust and as somewhat pale and anemic.

Family history is negative.

She took her ether badly. Her tongue was broad and thick. The pharynx, antero-posteriorly, was narrow so that the breathway was almost entirely occupied by the tongue, and it was necessary to keep the tongue drawn forward and depressed posteriorly in order for the patient to breathe. The tonsils were small and submerged and when grasped in the forceps large masses of cheesy detritus were expressed from each tonsil. These masses were removed with forceps as carefully as possible before proceeding with the dissection. Frequent halts in the dissection were necessary to bring the patient sufficiently under the anesthetic to proceed. Considerably more than an hour was consumed when the operation was completed but the dissection was carefully done and a complete and satisfactory tonsillectomy accomplished.

Her recovery from the anesthesia was uneventful and she returned to her sister's home in Woronoco. Five days after operation she developed pain in her right side and back. She had been out of bed and down stairs that day. She returned to bed with a temperature of 99.4° and no unusual soreness of throat, which was healing nicely. Pain was increased by lying on the affected side. Dr. Douglas then saw the patient in consultation with Dr. Wager and a diagnosis of abscess of the right middle lobe of the lung was made. She continued under Dr. Wager's care until she was removed to the Massachusetts General Hospital in Boston. Before she was taken to Boston the abscess emptied itself, when, during an exhausting paroxysm of coughing she raised a large amount of foul smelling sanguineous pus.

She was discharged from the hospital after about six weeks, during which time her temperature was up and down, but never higher than 102°. A series of x-ray plates was made showing the progress of the healing process. During her last week at the hospital she raised some bright red blood but on her discharge her attending physician stated her lung had made very good resolution.

Parks Building.

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A PERMISSIBLE BREAKFAST PRIOR TO BASAL METABOLISM MEASUREMENTS.

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The rapid advance in the clinician's use of basal metabolism measurements as an index of the plane of vital activity has resulted in the daily study of probably not less than two or three hundred patients, possibly many more, throughout the United States. Among the discomforts of such measurements may be cited the inordinate delay in clinics inadequately equipped or in clinics employing antiquated techniques, and the delay occasioned by the attaching of various masks to the face by innumerable bands and straps. One discomfort commonly experienced by all subjects of basal metabolism tests is the necessity of abstaining from food completely for at least 12 hours, which means that all basal metabolism tests must be *completed in the morning before the subject has had any food.* The discomforts mentioned above are greatly aggravated by the fact that more often than not the subject has a sensation of hunger and frequently there is a feeling, if not an actual realization, of faintness. The psychological attitude toward the test would therefore be immeasurably bettered, were it possible to give the subject an amount of food which would temporarily satisfy the appetite and yet would not stimulate the metabolism to such an extent as to vitiate the basal metabolism measurements.

The difficulty of restraining youthful subjects made it necessary for Du Bois to allow his Boy Scouts regularly small quantities of food prior to the tests.[1] A study of the influence of a light meal upon metabolism has been admirably carried out by Du Bois[2] and his associates, who found that the metabolism was essentially at the basal value two or more hours after the ingestion of a meal containing some protein and some saccharose. At the request of Dr. Du Bois, Dr. H. L. Higgins, formerly associated with this Laboratory, made an experiment at the Nutrition Laboratory with the breakfast used by Dr. Du Bois and found similarly that with an adult the effect of such a meal passed shortly after two hours. With characteristic conservatism, Dr. Du Bois states: "It is obvious that we can determine the level of the basal metabolism within six hours of the taking of the standard break-

fast."[2] It has been realized in the Nutrition Laboratory for a number of years that if a meal could be planned which, though light, would ward off for two hours any pronounced feeling of hunger and thereby produce a sense of well-being, the seemingly disagreeable feature of metabolism studies would in large part be avoided. Such a meal should be non-stimulating (for if the meal will increase the basal metabolism, it obviously may not be taken) and should produce a sense of satiety that will not be too transitory.

The food elements that stimulate metabolism most are protein and the ketose sugars, such as levulose and sucrose. Fat stimulates the least. Caffeine raises metabolism. Fortunately, fats are the one class of nutrients that most readily produce a feeling of satiety. The meal that we finally decided to use consisted of

1 cup (200 c.c.) of caffeine-free coffee
16 milligrams of saccharin
30 grams of medium cream
25 grams of potato chips

This meal is nearly protein-free, contains no ketose sugar, has an appreciable proportion of fat and a total calorific value of not far from 250 calories, depending somewhat upon the percentage of fat in the cream. Undoubtedly a cereal coffee would be permissible, but a well-known brand of so-called "caffeine-free" coffee has been regularly used in our work. Saccharin in any desired amount up to 16 milligrams has given excellent satisfaction. The fat in the cream and in the potato chips serves to produce a feeling of well-being, with entire absence of hunger. This fact has been brought out interestingly in connection with our many series of basal experiments. In those instances when no food was eaten prior to the test, coffee and rolls were regularly taken by the subject in the Laboratory at noon before leaving. On those days when the above breakfast was given, there was practically no appetite for the coffee and rolls two hours later. This fact bears direct evidence as to the satisfying nature of this small meal.

In studying the effect of this meal upon the basal metabolism the plan of our experiments was as follows. Basal metabolism measurements were made first. After a well-established baseline was found, the breakfast was given and subsequently the series of tests were continued until the baseline was again reached. Two subjects were studied. One was a professional artist's model, who has been studied extensively at the Nutrition Laboratory for the past six years and who is in every way an ideal subject for metabolism measurements. The other subject was a member of the laboratory staff and was likewise thoroughly well trained in metabolism measurements. From among the many forms of respiration apparatus owned by the Nutrition Laboratory a new type, the student form of respiration apparatus (which we have recently described[3]), was chosen for making these tests, the selection being justified by the extraordinary degree of accuracy and the simplicity of manipulation of this equipment. The usual precautions for accurate basal metabolism experiments were observed. Thus, the subjects were studied in the post-absorptive condition, *i.e.*, at least 12 hours after the last meal (which should not be high in protein), and in complete muscular repose, lying quietly on a sofa in a comfortable position and covered with sufficient clothing to insure complete muscular relaxation. The room temperature was 20° C.

In connection with these experiments we desire to point out that we believe the procedure of reporting the basal results by themselves, as contributions to our knowledge of normal basal metabolism, should become general practice in research laboratories. Thus, the woman subject, Miss M., one of the subjects in the study of the simple breakfast under discussion, has been repeatedly studied in the Nutrition Laboratory and basal values previously determined with her at the average age of 24 years have already been reported in an earlier publication.[4] Basal data for the male subject, F. G. B., when at the average age of 41 years, were also reported in this earlier publication.[5] As a result of the series of experiments in which the effect of this simple breakfast was studied ... basal metabolism was established on three different days with Miss M. and on one day with F. G. B.

With Miss M. on January 16 the oxygen consumption per minute measured in two consecutive periods under basal conditions was 202 and 188 c.c., or an average of 195 c.c. On January 30 four basal periods showed an average oxygen consumption per minute of 196, 200, 190, and 191 c.c., or an average of 194 c.c. On February 6 basal values were found of 191, 192, and 194 c.c., or an average of 192 c.c. The average of all three days was 194 c.c. The calorific value of oxygen at the commonly assumed respiratory quotient of 0.82 would indicate that the average oxygen consumption of 194 c.c. per minute represented 1348 calories per 24 hours as the total basal heat production. This subject had a nude weight of 60 kg., a height of 160 cm., and was 31 years of age. Her predicted basal heat production, therefore, according to the Harris-Benedict multiple-prediction formula for women[6] would be 1380 calories per 24 hours. The male subject, F. G. B., consumed in four consecutive basal periods 271, 260, 263, and 270 c.c. of oxygen per minute, with an average of 266 c.c. With an assumed respiratory quotient of 0.82, this would correspond to 1848 calories per 24 hours. According to the Harris-Benedict multiple-prediction formula for men[6] this subject, who had a nude weight of 79.4 kg., a height of 183 cm., and was 52 years of age, would have a predicted basal metabolism of 1722 calories. Thus, the measured metabolism of the male sub-

ject was approximately 7 per cent. higher than the predicted, while in the case of the woman subject the measured metabolism was about 2.5 per cent. less than the predicted. The basal values for both subjects are reported here as representing satisfactory basal metabolism measurements.

It is not, however, with basal metabolism that this paper has chiefly to deal, but with the influence of the ingestion of a light meal upon the basal metabolism. Upon this point we have three experiments with the woman and one with the man. The breakfast was given after the basal values were established. The subjects sat up in a semi-reclining position on the sofa and after eating, which took about 10 minutes, immediately lay down again. The experimental periods were all begun at fairly uniform times after the subject had finished eating and practically all occurred in the time phases of 15, 40, 60, and 100 minutes after the meal. The oxygen consumption as noted with the two subjects in these approximate time phases has been incorporated in the following table:

OXYGEN CONSUMPTION PER MINUTE BEFORE AND AFTER THE BREAKFAST.

Subject and date	Average basal	After eating 15 mins.	40 mins.	60 mins.	100 mins.
1923	c.c.	c.c.	c.c.	c.c.	c.c.
Miss M.					
Jan. 16	195	209	204	188	191
Jan. 30	194	194	189	179	190
Feb. 6	192	197	199	179[1]	186[2]
F. G. B.					
Feb. 8	266	294	269	263[3]	264

1 The oxygen consumption 75 minutes after eating was 185 c.c. per minute.
2 The oxygen consumption 120 minutes after eating was 190 c.c. per minute.
3 The oxygen consumption 70 minutes after eating was 262 c.c. per minute.

With Miss M. on January 16 in the first experimental period after eating, the metabolism was perceptibly increased and at the end of 40 minutes it still had not reached the basal value, but at the end of 60 minutes the basal value was clearly reached. On January 30 an oxygen consumption somewhat lower than the established basal value was noted at about one hour after eating. The general picture is that the metabolism was certainly not raised by the ingestion of food and was possibly slightly lowered, the inference being that the basal metabolism as determined on this particular date might not have been truly basal at the start. On February 6 the metabolism was increased from 2.5 to 3.5 per cent. for about 40 minutes, and thereafter fell somewhat below the initial value. With the subject, F. G. B., the influence of eating was very pronounced in the first 15-minute time phase, the metabolism being increased somewhat over 10 per cent., but in the 40-minute time phase the basal value was resumed and the oxygen consumption did not alter throughout the rest of the morning.

From these data and from the striking effect which this very light meal has upon the appetite and the general sense of well-being it is quite clear that a meal of this type does not produce any measurable influence upon metabolism and certainly with normal individuals cannot interfere with basal metabolism measurements, provided the food is completely eaten at least one hour prior to the actual tests. It has not been demonstrated, however, that even this small quantity of food might not stimulate further the abnormally high metabolism obtaining in disturbances of the endocrine glands. Tests along this line should be carefully made before permitting the light breakfast in general in pathological cases. We believe that in the study of normal individuals all workers should make this simple test themselves, and we believe that no increment in metabolism sufficiently pronounced to affect the basal measurements will ordinarily be noted.

At this juncture when all workers in metabolism are seeking to have the strictest controls in basal metabolism measurements and are circumscribing in every detail the permissible latitude of the known factors affecting basal metabolism, it may seem unwise to allow any food prior to basal metabolism experiments. Our own experience leads us to believe that the sense of euphoria resulting from the warm and satisfying, though light, meal will actually make for less discomfort, less irritability, and ultimately for more accurate basal metabolism measurements. It is to be sincerely hoped that further tests of the effect of this non-stimulating meal will be made and reported, particularly upon pathological cases, for if such a general procedure is permissible in pathological cases (and we are strongly of the opinion that it will be found feasible), it ought to make gaseous metabolism tests very much less onerous to the average patient.

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A TENDON SUTURE WHICH PERMITS IMMEDIATE MOTION.

BY FRANK H. LAHEY, M.D., BOSTON.

Since 1907 I have used with complete satisfaction and taught to house officers the stitch here described as a simple method of so suturing tendons that immediate motion can be instituted.

A round needle threaded with silk linen or

Pagenstecher is inserted through the tendon starting on the back of it at a point directly opposite the point A (Fig. 1). It emerges on the

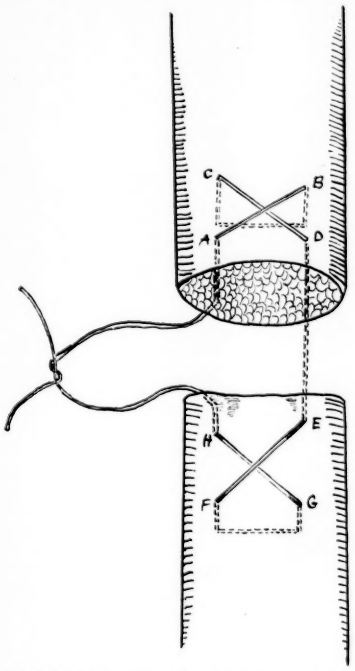

FIG. 1.—Showing method of introducing stitch. (See text.)

anterior surface of the tendon at the point A. The needle then penetrates the tendon passing from front to back at the point B, and again enters the tendon on the back at a point opposite the point C and passes through from back to front emerging at the point C. The needle is then entered at the point D and after passing from front to back is carried to the opposing end of the other segment. It penetrates that segment from behind forward at the point E, being carried then to the point F. At this

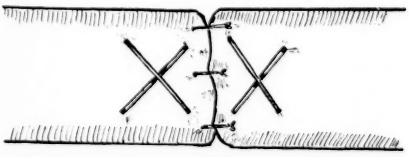

FIG. 2.—Stitch inserted and tied on back of tendon. Approximation stitches also inserted.

point it again penetrates from front to back and is then brought to the point opposite G, where it penetrates from back to front to emerge at G, where it is carried to point H. At this point, H, after penetrating from front to back, it is tied to the other end of the suture material which is found on the posterior surface of the tendon at the starting point A. This results in the introduction of a double figure of eight stitch, one figure of eight being in each end of the cut tendons. The result is an oblique grasp and pull on the fibres of the tendon by the stitch whenever active motion in the tendon is instituted. It is well also to introduce two or three approximation stitches directly at the cut ends of the tendon to insure accuracy of healing.

It is also well to introduce the figure of eight stitch in the cut ends of the tendon, not so that the ends of the tendons are just approximated but so tightened that the cut ends are crowded against each other a little. With institution of active motion the figure of eight will then settle into the tendon, thus affording a little slack in the stitch which compensates for the crowding together of the cut ends of the tendons.

The stitch was devised to overcome the ill effects of prolonged fixation of the sutured tendons. It permits immediate use of the tendons and prevents fixation in the tendon sheath. It is recommended as being simple, effective and proven adequate by long usage.

A STUDY OF BLOOD SUGAR CURVES IN JEWISH AND NON-JEWISH PATIENTS WITH NO APPARENT GLYCOGENIC DISTURBANCE.*

BY H. MORRISON, M.D., BOSTON,
AND
W. R. OHLER, M.D., BOSTON.

THIS study was prompted by the desire to determine whether blood sugar tolerance as indicated by a standardized glucose meal is lower among Jews than among non-Jews. What we really did was to determine the comparative incidence of high blood sugar curves following the standardized glucose meal in groups of Jewish and non-Jewish patients, showing no apparent glycogenic disturbance.

The standardized Janney[1] glucose meal and the Folin method of blood sugar determination were used in both series of cases. Table I gives the data and results of the tests on twenty-five Jewish patients during 1920 and 1921 at the Beth Israel Hospital in Boston. It was tried on both male and female patients with an age range of 21 to 55. With the exception of one, Case No. 11, whose weight was 82 kilos, they were not obese, and all were well along in convalescence, usually a day or two before leaving the hospital, when the test was done. Care was

*From the Medical Clinics, Beth Israel Hospital and City Hospital, Boston.

taken to exclude cases that might have disturbed glycogenic function. Merck's dextrose was used; 1.5 grams per kilo body weight, dissolved in 2.55 c.c. of water per gram of glucose. The range of glucose per meal was bewteen 51 and 123 grams. Blood was drawn before the terminations were made in the laboratory of Dr. F. Gorham Brigham of Boston. No glucose was found in any of the twenty-four-hour specimens of urine. It is regrettable that single specimens were not collected for examination at the end of the two-hour period.

TABLE I.

No.	Sex	Age	Weight	Diagnosis	Temperament	Blood Sugar per 100 c.c. After Glucose Ingestion Fasting	¾ Hr.	2 Hrs.	Type of Curve	Glucose in 24° Urine
1	f	34	43.6	Psychoneurosis	Neurotic	0.100	0.188	0.158	High	0
2	m	48	65.9	Syphilis	Calm	0.100	0.160	0.116	Normal	0
3	m	43	72.9	?Depressed Skull Fracture	Calm	0.090	0.152	0.108	"	0
4	m	31	72.2	Hernia	Calm	0.098	0.122	0.110	"	0
5	m	48	56.8	Bronchial Asthma	Neurotic	0.090	0.196	0.120	"	0
6	f	21	53.1	Psoriasis	Neurotic	0.082	0.090	0.046	"	0
7	m	56	62.7	Alcoholism	Neurotic	0.090	0.188	0.124	"	0
8	f	28	57.2	Typhoid	Neurotic	0.110	0.192	0.210	High	0
9	f	35	48.1	Typhoid	Calm	0.094	0.192	0.100	Normal	0
10	f	29	34.5	Appendicitis	Neurotic	0.106	0.202	0.186	High	0
11	f	48	82.3	Myocarditis (Obesity)	Neurotic	0.098	0.158	0.154	"	0
12	f	25	67.7	Acute Bronchitis	Neurotic	0.080	0.238	0.200	"	0
13	m	28	68.6	Hernia	Neurotic	0.054	0.178	0.176	"	0
14	m	27	63.6	Psychoneurosis	Neurotic	0.084	0.114	0.082	Normal	0
15	m	27	65.0	Peritonsillar Abscess	Neurotic	0.056	0.104	0.052	"	0
16	m	35	68.1	Ischio-rectal Abscess	Calm	0.050	0.124	0.070	"	0
17	f	35	62.7	Psychoneurosis	Neurotic	0.082	0.120	0.074	"	0
18	m	29	66.3	Anacidity	Neurotic	0.102	0.096	0.102	"	0
19	f	34	60.0	Anacidity	Neurotic	0.096	0.120	0.110	"	0
20	m	23	53.2	Varicocele	Calm	0.089	0.120	0.115	"	0
21	m	19	59.1	Arthritis-Chr. Endocarditis	N'r't'c	0.090	0.080	0.090	"	0
22	f	29	38.6	Carbuncle	Calm	0.098	0.176	0.116	"	0
23	m	21	47.5	Bronchitis	Calm	0.100	0.140	0.112	"	0
24	m	47	60.7	Hysteria	Neurotic	0.078	0.124	0.098	"	0
25	m	21	52.3	Appendicitis	Neurotic	0.110	0.154	0.132	High	0

TABLE II.

No.	Sex	Age	Diagnosis	Blood Sugar per 100 c.c. After Glucose Ingestion Fasting	¾ Hr.	2 Hr.	Type of Curve	Glucose in 2° Urine
1	male	26	Septic Finger	0.070	0.1020	0.084	Normal	0
2	male	47	Bronchial Asthma	0.080	0.200	0.210	High	0
3	male	60	" "	0.070	0.0990	0.107	Normal	0
4	male	60	Specific Endocarditis	0.070	0.160	0.070	"	0
5	female	30	Chronic Arthritis	0.110	0.210	0.120	"	0
6	female	45	" "	0.080	0.110	0.085	"	0
7	female	58	" "	0.120	0.210	0.170	High	0
8	male	42	Obesity	0.084	0.154	0.144	"	0
9	male	36	Infectious Arthritis	0.110	0.140	0.110	Normal	0
10	male	37	Thrombo-angiitis	0.103	0.286	0.154	High	Trace
11	female	?	Neurasthenia	0.079	0.126	0.098	Normal	0
12	male	?	Arterio Sclerosis	0.097	0.227	0.183	High	Trace
13	male	?	Obesity	0.080	0.120	0.120	Normal	0
14	male	58	Senile Gangrene	0.080	0.090	0.080	"	0
15	male	60	Empyema	0.069	0.117	0.090	"	0
16	female	50	Heart Failure	0.080	0.090	0.080	"	0
17	female	52	Chronic Arthritis	0.120	0.160	0.080	"	0
18	male	30	Pneumonia Convalescence	0.060	0.070	0.060	"	0
19	male	47	Obesity	0.076	0.170	0.070	"	Trace
20	female	?	"	0.076	0.152	0.225	High	0
21	female	28	"	0.056	0.152	0.140	"	0
22	male	69	Septic Ulceration, left foot	0.068	0.120	0.050	Normal	0
23	male	31	Chronic Arthritis	0.098	0.149	0.070	"	0
24	female	45	" "	0.090	0.150	0.070	"	0
25	female	?	Bronchial Asthma	0.100	0.125	0.128	"	0

ingestion of the glucose, after a fast of fifteen hours, and three-quarters and two hours after the test meal. This was done by Drs. Robert I. Gould and Arthur Berkowitz, then internes at the Beth Israel Hospital. The blood sugar de-

The blood sugar curves are classified as high and normal. The normal curves are those which after a normal fasting level show a hyper-glycemia at the end of three-quarters of an hour and a return to within normal limits

at the end of two hours (0.06 to 0.12 per cent). The high curves show an abnormally sustained hyper-glycemia, so that at the end of two hours there is still no return to the normal level.

There were seven high curves and eighteen normal ones in the Beth Israel group. Five of these eighteen were low and may have been due to delayed absorption. Of the twenty-five individuals studied ten were stable in temperament, while fifteen were apprehensive, or hypersensitive, or highly emotional, or had vasomotor instability, and, generally speaking, were of the "neurotic" type. All the seven who showed high blood-sugar curves belonged to this type, so that this stands out as a feature in the study of this group of Jewish individuals.

Table II is presented for comparison with Table I. It gives the blood sugar curves in twenty-five non-Jewish patients at the Boston City Hospital, who showed no glycogenic disturbance. These blood sugar determinations were done under the supervision of one of us (Ohler). Of the twenty-five curves seven are high.

This makes the incidence of high curves the same in both groups of cases.

The study of Goto and Kuno[2] on the renal threshold for glucose in a group of normal Japanese adults gives opportunity for further comparison. Of fifty-three blood sugar curves after a meal of 100 gm. of glucose thirteen may be classified as high, making the ratio practically the same as in the two groups studied by us here in Boston. Though the number of cases considered is very small, it seems not unfair to infer that race alone is not a factor in the incidence of low sugar tolerance, if that may be judged by the high blood sugar curve.

The feature of this investigation in the Jewish group was that all the high blood-sugar curves occurred in individuals with a nervous or emotional temperament. This may be significant in the explanation of the frequent occurrence of diabetes mellitus among Jews and other peoples who have lived for centuries in an environment of extreme physical and emotional tension. Professor Cannon[3] of Harvard, after summarizing his own observations, and those of others, on the variation of the blood sugar content in man and in animals under emotional strain, comes to the conclusion "that just as in the cat, dog, and rabbit, so also in man, emotional excitement produces temporary increase of blood sugar." Is it not fair to reason that an environment full of emotional excitement, working on generation after generation, will develop a type of individual in whom the metabolic balance may be easily disturbed, whether it be due to faulty assimilation or through vascular changes?

CONCLUSIONS.

1. This study indicates that race alone is not a factor in the incidence of high blood-sugar curves following the glucose test meal.

2. The fact that all the high blood-sugar curves in the Jewish group occurred in individuals with a nervous or emotional temperament may be significant in the explanation of the prevalence of diabetes mellitus among Jews.

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AN ADDRESS TO A GRADUATING CLASS OF NURSES DELIVERED IN 1899 AT THE LONG ISLAND HOSPITAL.

BY ABNER POST, M.D., BOSTON.

THE scholars of the Training School have all found their two years busy, and all, I believe, have passed them happily. What circumstances could better conduce to happiness than to be busy each day with a congenial employment, to be constantly administering to the good of others and at the same time to be constantly learning something new? The Training School teaches the particular business of nursing, but incidentally it cultivates the habits of industry, self-control, self-denial, cleanliness and right living, obedience and command. To a certain extent it may *deaden* pity, as an emotion, but as a motive it *strengthens* pity. It gives an active interest in the poor and suffering and those that need help. The nurse becomes, in her public capacity, a part of the machinery to diminish vice, misery and suffering.

No nurse ought to feel content with the education she has received, but ought to continue her education by further study in some shape. The nurse's education resembles that of all education of wide range—it is never done. It awakens the soul to an additional interest in life, which never ceases. All humanity becomes her study. How shall she continue her education after leaving the hospital? For she ought to continue her education, not merely in her chosen line, but in general she ought to know more each day. All education in scientific pursuits has the faculty of leading on to something more beyond—each step opens a wider vista.

The mere acquisition of a training, the mere possession of a diploma does not make a nurse in the highest sense of the word. It is not improper to say a word to the nurse about her duty to herself,—how to improve herself, how to provide for her future.

If she does not continue to improve herself she will retrograde. She must change in one way or the other; she cannot stand still. The time is not far distant when a postgraduate course for nurses will be recognized; when such

studies as the management of institutions, as special nursing, or of physical training will be pursued. But it is not of such matters that I wish to speak, but of what she may do for herself. It is a good plan for everybody to have some sort of a hobby that can furnish employment and amusement. There is nothing that furnishes such relaxation as a good novel, but novel reading may become one of the worst of habits. There are certain novels that everybody ought to know. They have grown to be part of our national literature and may be read over and over again. There are novels, even many silly ones, which serve temporarily to divert a brain which is wearied with the contemplation of suffering. But the habit of spending every leisure moment in reading novels, whose only merit is that they are new, is destructive to anything like progress in intellectual growth. Read novels for diversion, but find some other subject on which you can also read with delight. History in some of its forms is a never-ending charm to those who cultivate the taste. Unfortunately our schools do not give us always the desire to know more. Historical studies do not consist in learning long arrays of dates and dreary lines of uninteresting royal successions. Today we are able to read of the way in which our ancestors lived, of what they ate and wore, and how they spoke and travelled.

But some branch of natural history is pretty sure to furnish interest to the nurse. Her vocation leads her to study closely one branch of natural history and she is pretty sure to have had a girlhood of devotion to living pets.

The love of flowers may become the groundwork of a genuine knowledge of botany. The study of birds does not include alone the use of a gun to lay dead the little songster. There is a clinical study of birds and beasts and flowers that has even greater charms than the acquirement of anatomical details and the arrangement of dried specimens.

The art of cookery is one of the many arts of which a nurse should know something, and cooking for the sick may be made one of the fine arts. The rudiments of the art are a part of every nurse's training, but it is a part of her training which she should develop. In most households she will find some little delicacy or some new way of preparing some article already familiar which she can add to her repertoire. The philosophy and physiology of cooking and its chemistry will afford room for continued study as long as she lives.

Every nurse ought to have some art of amusement. Some can read aloud, perhaps the most universally applicable of all the arts of pleasing; some few have the art of story telling. To cut out paper dolls or manufacture little articles from paper is a way of amusing children and the convalescent is often a child. Absorbent cotton may be used as the artist handles clay. I believe every nurse should know some of the simpler games of cards and backgammon and perhaps checkers.

There are few things better worth cultivating than general good temper. It is something that exceeds in value wealth or education. It is found occasionally in the poor man in spite of his poverty and it may exist in the rich notwithstanding his riches, but the good nature of which I speak is, I believe, impossible unless one possesses actually a love for his fellow man. It needs for its best development a root in the heart. It is our universal duty to cultivate good temper and geniality. It is a duty for us all but most particularly should a nurse restrain her temper and cultivate the habit of good nature. Nothing should ruffle her temper or destroy the sunshine of her smile.

There is the greatest difference in the original disposition. Any one of you who has spent much time in the children's wards must have observed the different tempers displayed by the infants in the cribs, but I believe firmly in the possibility of cultivating sweetness of temper or the opposite. Goethe's mother wrote in a letter to Frau von Stein: "Would to God I could make all mankind joyous and contented; how happy I should feel! I love cheerful people. If I were a sovereign I would imitate Julius Caesar and have only happy faces at my court. For as a rule those people are good whose conscience makes them happy. I fear persons of downcast brow; they remind me of Cain."

Sydney Smith when laboring as a parish priest in Yorkshire, though he did not feel himself to be in his proper element, went cheerfully to work in the firm determination to do his best. "I am resolved," he said, "to like it and reconcile myself to it which is more manly than to feign myself above it and to send up complaints by the mail of being thrown away, and being desolate and such like trash."

Hume was accustomed to say that he would rather possess a cheerful disposition, inclined always to look upon the bright side of things, than with a gloomy mind to be the master of an estate of ten thousand a year. Even happiness itself may become habitual. There is a habit of looking at the bright side of things and also of looking at the dark side. Dr. Johnson has said that the habit of looking at the best side of a thing is worth more to a man than a thousand pounds a year. And we possess the power, to a great extent, of so exercising the will as to direct the thoughts upon objects calculated to yield happiness and improvement, rather than their opposites. In this way the habit of happy thought may be made to spring up like any other habit. And to bring up men and women with a genial nature of this sort—a good temper and a happy frame of mind—is perhaps of even more importance than to perfect them in much knowledge and many accomplishments.

Some time ago I found on the walls of a sick-chamber a bit of typewriting by the side of a photograph of one of the sweetest old ladies I ever saw. That bit of typewriting described so accurately the spirit I desire to cultivate that I quote it here:

THE SECRET OF A LONG LIFE.

You sometimes see a woman whose old age is as exquisite as was the perfect bloom of her youth. She seems condensed sweetness and grace. You wonder how this has come about; you wonder how it is her life has been a long and happy one. Here are some of the reasons:

She knew how to forget disagreeable things.

She kept her nerves well in hand, and inflicted them on no one.

She believed in the goodness of her own daughters and in that of her neighbors.

She mastered the art of saying pleasant words.

She did not expect too much from her friends.

She retained her illusions, and did not believe that all the world was wicked and unkind.

She relieved the miserable, and sympathized with the sorrowful.

She retained an even disposition, and made the best of everything.

She did whatever came to her cheerfully and well.

She never forgot that kind words and a smile cost nothing, but are priceless treasures to the discouraged.

She did unto others as she would be done by, and now that old age has come to her and there is a halo of white hair about her head, she is loved and considered.

This is the secret of a long life and a happy one.

It is just as easy to cultivate the habit of fretting, of criticizing, of fault-finding, of suspicion towards those about. One does not like to feel that he is easily deceived and made a victim. There are people enough who are willing to take advantage of our weakness or our benevolence. It is humiliating to be "taken in," as the phrase goes, but I would rather be deceived daily than go about constantly looking for evil in every one I meet. It is as great a fault to overlook the *good* in others as to overlook the evil. Fretting is contagious. It is impossible to be fretted at and not scold back in return. The nurse comes in contact with many individuals of different characters. She is sure to meet some who are selfish, exacting and fault-finding. It is hard to resist the influence of such people. If one may not scold back, it is natural to scold the next person we meet, and thus the habit grows. But the point of danger about scolding and fretting lies in the fact that it is often the result of our anxiety about some object or person, and the individual who does the fretting, feeling sure that the object is good, forgets that fretting defeats its own object.

This sounds like a sermon, but the time will come when you will see the reason for the warning and advice.

In leaving this hospital, each one of you leaves behind some poor patient who will grieve at your departure. When old age finally compels you to cease from your labors, may you then find that your part of the world is better and happier for your living in it because of the lessons you have learned here.

THE QUESTION OF PHYSICAL INJURY TO THE WORKING CHILD OF FOURTEEN TO SIXTEEN.

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RECENTLY the question of permitting certain school children to engage in limited kinds of labor has been widely discussed and a general impression has been made that this procedure was necessarily a harmful one. I, therefore, feel that it is desirable to publish a small series of cases, in no way selected, which seem to demonstrate that if the situation is adequately handled from a medical point of view, namely, that the unsuitable are eliminated from the tasks for which they are not fitted and working conditions are proper, the child between 14 and 16 in industry can and does consistently gain.

In a previous paper,[1] I have stressed the necessity of adopting definite standards for interpretation of the phrase "in sufficiently sound health and physically able to perform the work indicated" and demonstrated what I considered was a desirable basis. Summarized, it consists of eliminating the unfit plus provisional certificates for certain others, conditional upon the early remedy of defects which do not absolutely incapacitate for the particular task and circumstances, thereby preserving the job for the child when possible, provided he or she co-operates by taking the proper measures for relief within a brief period, usually a week or two, and this is followed by a rechecking to see that the agreement is kept.

To determine the efficiency of these standards, I examined 1225 records of children between 14 and 16 years entering employment or obtaining new jobs, this being the number of my examinations between August 1, 1922, and February 1, 1923. A belief had existed for some time in my office, as a result of seeing these children and rough examination of the records, that engagement in the tasks permitted at this age and under these standards had done no physical damage and actual gain had been made. In the case of 99 children who made more than

one visit during this period, this belief was confirmed, since nearly all gained and especially those children of the underweight group. Often, the improvement was more than the normal standard for the given age.

In every case, the child was thoroughly studied upon first appearance and this included examinations of eyes, ears, teeth, nose and throat, chest, and for hernia and orthopedic defects. In other words, a thorough physical examination was given, that for the girls being slightly less stringent than for the boys, because of the necessity of making the examination non-offensive at a sensitive age. After the first study, the later work depended upon rough findings, in no case anything but the heart and lung examination being omitted. In the presence of suggestive symptoms such as loss of weight, we made a careful attempt to discover the under-lying cause and doubtful chest cases were referred for further opinion to the local tuberculosis clinic, where an unusually good and thoroughly interested expert is available. Doubtful eye cases were referred to our ophthalmologist. The weight was also followed each month in the Continuation schools.

Concerning the standard for underweight, I used a ten per cent. borderline, based on the Wood Tables. This was not the absolute criterion of general condition, the whole picture being used in that connection.

When we went through the tabulations on the basis that a boy should gain one pound per month at this age and a girl one-half pound, it was remarkable that not only had the children lost no weight except in rare cases, but had actually made gains consistent with and usually exceeding our standard and frequently the nutrition problem was eliminated. It should be said here that underweight alone, unless very marked, was not considered cause for absolute refusal of a certificate, especially in textile work, which is a matter of skill rather than muscle, provisional two or three-month certificates being given for the "Work Test." Here we should notice that in the clerical group none of the underweights reached normal, one from the non-textile industries did so, while four in the textile group succeeded, and this in a comparatively short period. No apparent distinction could be drawn along racial lines, the nationalities involved being generally Portuguese, Bravas, English, French, and native American.

For the purpose of comparing the effects of the various types of employment, I divided the 99 into four sub-groups which were: (1) the textile, in which there were 58 children; (2) other industries, 7 children; (3) outdoor work, 16 children, and (4) clerks and similar indoor work, 18 children. The term of employment varied from a few weeks to five and one-half months.

In the 58 in the textile group, there were seven underweights and two on the borderline. None of these lost, the gain varying from three-quarters of a pound to eight pounds, four eliminating themselves from the nutrition stigma. Nine, chiefly overweights, lost from one-half to three pounds. Evidently in this group, improvement was greatest.

Of the six in non-textile industries three were underweight. None of these lost, one left the underweight class and one made consistent gain. The third child was employed only a brief time and weight did not change. One overweight lost 12 pounds, but still was above normal.

Of the sixteen in outdoor manual labor both underweights gained, while two others lost, a normal case dropping seven pounds and an overweight child four pounds.

We found that the eighteen doing clerical work included five underweights, of whom two lost weight, the greatest amount being two pounds. Three others lost, but two of these were overweight. Twelve pounds was the maximum decrease and this was in a child to whom it was a benefit.

From a group of this size, although well-controlled and in no way selected, I do not wish to draw absolute conclusions. The results, although expected after watching the cases, were rather unusual, at least as compared with the findings of certain others, especially in the well-known Boston group. However, I believe the explanation is also at hand and that we are probably safe in generalizing from this series of mine under conditions outlined below.

CONCLUSIONS.

1. The working child between fourteen and sixteen has gained, sometimes markedly, and this gain has been most consistent in the textile industry.

2. In such tasks as the Massachusetts labor laws permit the child of this age to engage, the possible danger to the health of the normal child may be exaggerated, since the gains noted, especially in the "breaking-in" period are all the more striking, for one might reasonably expect loss then, if at any time. Likewise, the average underweight child with little discoverable pathology otherwise, seems to gain and often reaches normal.

3. The normal growth does not seem to have been arrested by working, in fact, improvement was made and this was often marked.

Locally, there are very definite reasons why this should be the existing situation and they offer a possible explanation to certain other less satisfactory groups.

1. For a number of years the local schools have had increasingly good health work and the pupils have been given unusual opportunity for physical development.

2. A system of nine conveniently located parks are available for play in the summers.

3. The Bureau of Labor and Industries watches working conditions carefully and the majority of the mill executives believe that the health of employees is a good business investment and act accordingly.

4. On entering employment and upon change of jobs, the children are given conscientious physical examinations based on a workable sensible standard, approaching the hospital clinic as closely as possible. Special watchfulness is available where indicated. Through the nurse at the Continuation School, who is supplied daily with lists of defectives, definite preventive work is done and defects corrected, the physician checking up at suitable times.

5. In certain races, notably the Portuguese, the working child assumes a different status in the family and is given a better diet, notably with the addition of meat, which is often previously refused.

If, then, as is apparently true, the child between fourteen and sixteen can develop normally and even gain physically while at work, the greatest reason for preventing him or her doing so has disappeared. Many of these children, because of lack of mental grasp, decline of interest, or because of parental propaganda, have tired of school and we can do them no great injury in permitting them to engage in fairly lucrative employment. This is all the more true when we know that in the Continuation Schools in which attendance is required weekly by law, the child, dissatisfied with work, is encouraged to return to school work on the principle that he will not make a good employee if thus dissatisfied and having proved to his own satisfaction that he wishes to continue his education, it will seem far more valuable to him.

In this connection, we must remember that psychological tests are gradually proving to us that an automatic sorting process is continually going on in schools and to no small extent cares for the problem of who shall study and who not.

For these reasons, and under similarly well-controlled conditions, as when the Massachusetts labor laws are carried out, the question of actual injury to the child of fourteen to sixteen as a result of going to work, in permitted selected tasks, is doubtful, and probably largely non-existent, except in the unusual case. Actual benefit may result instead of damage and this benefit seems to be greatest in those who need it worst.

REFERENCE.

1 Rowell: Child Labor in New Bedford. Nation's Health, April, 1922.

LONG INCUBATION PERIOD OF RABIES.

THE Department of Health of New York City reports the development of rabies in a man who had been bitten by a dog two years previous to the onset of symptoms.

SOME OBSERVATIONS MADE DURING THE AMERICAN COLLEGE OF SURGEONS' CRUISE TO SOUTH AMERICA.

BY MARSHALL L. ALLING, M.D., F.A.C.S.,
LOWELL, MASS.

ON February 10 of this year, the ship *Vandyke* sailed from New York for a nine weeks' cruise to Central and South America. She had for passengers a representative group of surgeons from the United States and Canada with members of their families and friends. The cruise, under the direction of the American College of Surgeons, was to take them to Havana, the Canal Zone, Cartagena in Colombia, LaGuayra and Caracas in Venezuela; Pernambuco, Bahia, Rio de Janeiro, Santos and Sao Paulo in Brazil, Buenos Aires in Argentina, Montevideo in Uruguay, and Bridgetown, Barbadoes. Owing to the presence of yellow fever at Bahia and Pernambuco these ports were omitted, but an unexepected and most enjoyable visit was made at the beautiful island of Trinidad.

The cruise was a most interesting and profitable one, combining as it did social festivities, sight-seeing, and an excellent postgraduate course of instruction in surgery. The latter consisted of scientific meetings on board the *Vandyke*, while at sea, at least three times a week, and usually more often, and visits to hospitals for ward-rounds, operative clinics and formal evening meetings and convocations while on shore. Some of these latter were held at medical schools, thus giving us an opportunity to inspect these institutions.

The education of medical students of South America is given in schools supported by the governments; no tuition is charged except in Argentina. The course of instruction is spoken of as covering a period of six years in Brazil and Uruguay; seven years in Argentina. These periods seem rather long, but upon investigation it is found that this time, though spent in the medical schools, can really be divided into two periods, the first two years being devoted to the study of physics, chemistry, and the natural sciences, and may be compared to our requirement of a pre-medical course. Then follows the regular four-year course.

In the Argentine the extra year is necessary because the school year is approximately one month shorter than in the other countries, and at least thirty days exclusive of Sundays are omitted because of holidays. During the last two years the students are admitted to hospitals in the same capacities as are those of our own schools.

The medical schools are well equipped with conveniences for instruction, including comfortable class rooms, well-lighted laboratories with apparatus and instruments apparently in ample supply and of excellent quality. The lec-

ture rooms are provided with the necessary equipment for demonstration by lantern slides. As the schools were not in session we did not have an opportunity of witnessing the actual teaching.

The hospitals in Rio, Montevideo, and Buenos Aires may be divided into the three types: private, semi-private and public. The first are institutions owned and controlled by one surgeon or a group of surgeons. Many of these are most elaborate in structure and completely fitted with every convenience for good work, with the exception of graduate nurses. Double rooms, one bed for the patient and one for the relative who comes to do the nursing, are frequent. The semi-private institutions are those in which the patients are expected to pay small fees. In many instances there are a few rooms set aside in public institutions for such patients. In the latter, the hospital expects a part of the surgeons' fees in addition to the money paid by the patient for hospital care. The public institutions, as well as some of the semi-private ones, receive a great deal of financial support from the gambling establishments, such as roulette, the lotteries and horse races. For instance, at Buenos Aires 10 per cent. of all the money bet on the races is deducted for the Jockey Club, which turns it all over to the hospitals, the British Hospital there being one of its protégées. The money received from these sources runs into very large figures as gambling is very extensive in these countries and is under the control of the Federal Government.

Owing to our comparatively short stay in each of the various cities visited, and as the clinics were arranged for us, we naturally saw only the best hospitals. The buildings were usually large, of two stories in height with ample porches and many windows and doors, situated on spacious grounds made beautiful with tropical plants and trees. These institutions were equipped with all the necessities for good work, such as laboratories, x-ray apparatus, operating rooms and instruments of recent design. The wards contain usually from 20 to 40 beds, many of them being overcrowded because of lack of sufficient hospitals. Case records have been kept for many years, usually on printed forms. One institution keeps a record of anesthesia of each patient on a form sheet. At the end of the year these sheets are bound into a book and dated. This series of books began in 1902. It is possible that other institutions do the same, but as I made no special inquiry I do not know.

In view of the open windows and doors everywhere,—and in fact some institutions have no windows and doors, but shutters,—the almost universal lack of screening against flies and mosquitoes is most conspicuous. In only a few institutions were there any screens. The fact that flies have an aversion for blue light is taken advantage of in excluding them from operating rooms by building a short corridor with blue glass sides leading to them. It is also of interest to note that some dairies use this principle in connection with their milk rooms.

Many of the modern hospitals are beautiful architecturally. The Italian Hospital in Montevideo and the Surgical Institute of the Medical School at Buenos Aires deserve special notice. The latter is a structure built and equipped by the Government as a model surgical hospital. It has been finished only recently and may well be considered a model structure of its kind for Southern countries.

If a surgeon from North America were transplanted to South America, the greatest hardship that he would experience in his work would be from the lack of trained nurses. In the tremendous area represented by Brazil, Uruguay and Argentina the number of training schools for nurses does not exceed ten. The first and only one to be established in Brazil was officially opened about two weeks before our visit to San Francisco de Assis Hospital in Rio de Janeiro. This is a new institution which received its first patients in January of this year. This school is under the auspices of the Rockefeller Foundation. The superintendent of nurses is from the United States, and with her as assistants are five other nurses from our country and two German graduate nurses. The difficulties which these young women face are enough to frighten any but the bravest. In the matter of language, the American girls speak English and what Portuguese they have acquired during their few months in the country. The German girls speak very little English. The pupil nurses, sixteen in number, speak only Portuguese. There are no text-books available in Portuguese, so all of the lectures are written by the superintendent of nurses and translated into the native language. The position of the nurse in these Southern countries has been practically that of a lady's maid, and is consequently a servile one. Because of this fact, it is at present impossible to get the better educated women to take up nursing as a life work. Therefore, it is from the lower classes with their poorer education and natural qualities of character that the foundation of graduate nursing in South America must be built. Add to the above conditions, the continual interference by political bosses, and you have some idea of the situation that these pioneers in graduate nursing in Brazil are facing.

As we have seen, the surgeon has a six or seven years' course of study. During his preliminary education, sufficient consideration is given to the languages to enable practically every doctor to speak at least one language other than his own, usually French. It is not at all unusual to find a surgeon who speaks four or five languages. This naturally makes them more conversant with the medical literature of

other countries. Furthermore, these men travel extensively to foreign clinics. Frequently surgeons of prominence in their profession, even those of mature years, take their families and go for six months or a year to the United States, Canada and Europe for postgraduate study, so that a knowledge of what is going on outside of their own countries is very accurate. Two prominent men from Montevideo, Dr. Pou Orfila, a professor of obstetrics in the medical school, and Dr. Bauza, a very successful pediatrician, each with his family, came with us on our return voyage. After establishing their children in schools here these men intend to do several months of postgraduate work in the United States, Canada and Europe. Each mentioned Boston as one of the cities which he intended to visit.

One of the most noticeable things about the South American surgeon at his work is the lack of assistants. While watching these operators, I was reminded of incidents which occurred during my last years in the medical school, when I had the pleasure of going out in the country on emergency operations with my professor of surgery. On these occasions the country practitioner acted as the only assistant, while I gave the anesthetic. Early in the operation the practitioner was usually given a retractor to hold, and if possible two, apparently with the idea of keeping his hands busy and out of the way to forestall any possible harm that he might do. The operations in some places in South America were carried on in exactly that way, the surgeon preparing his patient on the table, laying out his own instrument table, preparing his ligatures, threading his needles, etc., the one assistant doing practically nothing but retract.

The surgeons of Montevideo were an exception to this practice and the assistants there were of real value. In all places very few instruments were used in operations, but as they were not discarded after being soiled in the wound, as is the custom with North American surgeons, a few instruments sufficed. In fact, I fear that we are unnecessarily heavily armed with instruments at most of our operations. The Reverdin type of needle was very much in evidence, and at some operations it was used entirely, even to inserting the purse-string suture with which to invert the appendix stump.

The one assistant has the advantage in a teaching institution in that a better view of the operation may be had by the students. But to my mind it is a hindrance to the dissemination of knowledge, as it is at the operating table that surgery is best learned by the student during his hospital experience, and while only one young man profits by the practice in South America two or three get the same benefit in North America. Of course there is no doubt of the ability of any good operator to do any operation with one assistant.

The anesthetic most frequently used outside of Montevideo was novocain, either by infiltration or to block nerves or intraspinally. At Montevideo, ether was the anesthetic in general use. In Rio de Janeiro and Buenos Aires local anesthesia in some form was usually the anesthetic of choice, with ether or chloroform the second choice. The work that I saw done under local anesthesia was a most agreeable surprise to me. From observations in some of our foremost clinics I had come to believe that the term "vocal anesthesia" was not a misnomer. I have no hesitation in paying the compliment to our brother surgeons of the Southern Continent that their use of novocain produced results better than I have seen elsewhere. In some clinics, however, they admitted a failure of satisfactory anesthesia in 8 per cent. of their attempts at lumbar anesthesia. This failure was explained by deterioration of the drug through excess of heat in sterilization. We saw one case of obstruction of the common bile duct by neoplasm in which a cholecyst-duodenostomy was done under infiltration of the abdominal wall and injection through the back into the splanchnic plexus. The patient showed absolutely no evidence of discomfort at any time.

Of the things that impressed one during the trip, the value of the work of scientific medicine in tropical diseases, its success in the treatment of poisoning by snake bites, and the great prevalence of hydatid cysts were particularly noticeable.

The tropical and semi-tropical countries owe debts of gratitude to medical scientists,—in particular to General William C. Gorgas and Dr. Oswaldo Cruz,—which they will never be able to repay. At Havana, the transformation of the city and its environs during the military occupation by the United States in 1899, under General Leonard Wood, was nothing less than magical. Through the application of sanitary principles laid down by Dr. Gorgas yellow fever was practically banished from the island in the short space of about a year. Then those splendid activities were transferred to the Canal Zone, and by changing that pest hole of yellow fever and malaria into a veritable health resort, the building of the Panama Canal was made possible. In the countries of South America, the work of Gorgas was carried on by Dr. Oswaldo Cruz of Rio de Janeiro, who, by using the same principles of sanitation, was able to repeat at Rio de Janeiro what Gorgas had done at Havana.

During our trip we had the pleasure of taking part in the laying of the corner stone of the Gorgas Memorial School for Tropical Medicine at Panama. The Republic of Panama has donated a splendid site of land, bordering on the Pacific Ocean, and already has plans and an appropriation of $500,000 for the first building. The Gorgas Memorial Association is about to start a campaign for the accumulation of a fund of $5,000,000 to support this school. Situated

as it is at the cross roads of ocean commerce, upon the ships of which there are frequent cases of tropical diseases, it would seem that the location could not be improved upon. It is also fitting that the Memorial to General Gorgas should be at Panama, because it is the place he loved, and in which he had planned to pass the last years of his life.

At Rio we visited the Oswaldo Cruz Institute for Tropical Medicine, a splendid structure dedicated to research work. The present director, Dr. Carlos Chagas, is the discoverer of the parasite which is the cause of the disease which bears his name. He demonstrated this organism to us and also showed us many of the beetle-like bugs by the bite of which the disease is transmitted. This institution is an example of the method the Southern people have of honoring their great men, it having been completed and in operation before Dr. Cruz's death.

In the town of Butantan, a short distance from Sao Paulo, is located the Butantan Institute, in which the problem of the scourge of venomous snakes has been successfully worked out. At this institution a large quantity of serum is produced to be used in the treatment of snake bites. The process is identical with that used in making diphtheria anti-toxin. The mortality from snake bites without serum treatment is approximately 70 per cent. If the serum can be used within six hours after the bite the mortality is practically nil. As there are a great many varieties of poisonous snakes in South America and the serum made for the treatment of the bite of one species does not prove of value in the bite of another species, or in fact, even for different members of the same species, a polyvalent serum is produced. It is of interest to note that the serum made for protection against the various kinds of rattlesnakes of South America is not of value in treating bites by the North American rattlers.

Hydatid cysts are very common in South America especially is this true in Montevideo. At almost every operating clinic there, we saw at least one case of hydatid cyst. The most frequent site of these cysts is the liver, next the lung, but they may and do appear in practically every structure of the body—even in the bones, though the latter are quite rare. A short time before our visit, there had been a case in one of the hospitals of a hydatid cyst in the eye, this being a very rare location.

The first knowledge a patient has of a cyst is usually the discovery of a tumor. Systemic symptoms, principally anaemia and loss of weight, come on after the cyst is quite large. When the cyst is located in the lung there are some of the symptoms of bronchitis, but never a fever unless secondary infection occurs. Many of these cases in the lung are cured spontaneously by rupture through accidents or the strain of coughing, especially during whooping cough. The disease occurs mostly in children, so the diagnosis is usually comparatively simple as the presence of a tumor without fever or other constitutional symptoms usually means hydatid. In obscure cases the presence of eosinophilia is very suggestive. Recently they are making use of an intradermic test, similar to the Schick test, for diagnostic purposes. The liquid injected is the fluid taken from a sterile cyst and preserved under sterile conditions. This will keep several months. The positive reaction appears in about six hours and lasts twenty-four hours, and is considered reliable.

There are in general use some methods of treatment of diseases, apparently with good results, which have not proved satisfactory elsewhere, notably two methods of treating goitre. In Montevideo a preparation of the blood from a thyroideetomized sheep mixed with glycerine is used as routine in treatment of toxic goitre. As a result of this treatment it is believed that many cases improve so much that operation is not necessary—even in those which do require operation later, the results are said to be better. In thyroid diseases of the so-called vasomotor type, a resection of the superior cervical ganglion of the sympathetic nervous system is done.

In general, the operative technique is similar to that which we employ, though the evidences of standardization are not as noticeable as in our clinics of North America. The influence of French teaching is prominent as it is to the French clinics that these surgeons most frequently go for postgraduate study.

I would not feel this communication complete if I did not pay tribute to the man who made this wonderful trip possible—our Director General, Dr. Franklin H. Martin. For successfully supervising arrangements to meet the approval of professional men with different interests who were at the same time tourists, he deserves great credit. Especially is this true when dealing with such people as we visited who were so urgent in extending and imposing hospitality. The feeling expressed so frequently on our return journey that it was hoped that some similar trip would be arranged in the future is, to my mind, the most eloquent tribute to its success.

OPHTHALMIA NEONATORUM.

According to the annual report of the National Committee for the Prevention of Blindness, 14.2 per cent. of the children entering schools for the blind in the United States were deprived of sight because of careless or inefficient treatment of so-called babies' sore eyes. Massachusetts is fortunate in being able to report that for five years not one child in this State, so far as the authorities had been informed, had become blind from ophthalmia neonatorum.

Medical Progress

PROGRESS IN SURGERY.

BY E. H. RISLEY, M.D., WATERVILLE, MAINE.

ELUSIVE ULCER OF THE BLADDER.

HERMAN L. KRETSCHMER in *Surgery, Gynecology and Obstetrics*, for December, 1922, gives a very good description of the symptomatology, the cystoscopic diagnosis, and the treatment of this condition. Up to the present time, it can be definitely stated that the actual cause of the lesion is unknown. Focal infections harboring streptococci apparently have some influence. One striking feature has been that females have been more frequently attacked than males. Thirteen of the fourteen cases reported in this paper occurred in women. Careful pelvic examinations were made without finding pelvic pathology, hence lesions of the pelvic regions can be dismissed as etiological factors, and also as factors in the treatment of the urinary symptoms.

Thirteen of the fourteen cases gave a history of previous surgical operations, and nine of the cases had been operated on for relief of their urinary symptoms, but the operations failed to relieve the bladder distress. There is only one patient who had never been subjected to any sort of surgical operation. Presence of gross blood in the urine was reported in six out of the fourteen cases.

The prominent feature in this group of cases is that the cystoscopic examination was extremely painful and the bladder capacity very limited. The cystoscopic picture is variable, depending on the state of healing of the ulcer. This has led to the term, "elusive ulcer," which term has been rather confusing. It is often necessary to make many cystoscopic examinations before coming to a final diagnosis; in several instances the lesion was first confused with tuberculosis.

As to location, the area of ulceration has been in the apex of the bladder, *i.e.*, in the dome, in nine cases; in three cases, location was on the posterior wall only; and in two cases, on the lateral wall.

The consensus of opinion among urologists is that this is a surgical condition and that, once the diagnosis is made, nothing short of an operation will suffice. Indeed, it is the last choice as far as our therapeutic agents are concerned, since the majority of these patients have had all sorts of local treatment, the only result of which seems to be an aggravation of symptoms. Wide resection of the ulcer-bearing area is the only treatment that has been carried out in this series with the exception of two cases which were treated by fulguration.

Of the eight cases operated upon, one is having a relapse and another has pus and staphylococci in the urine. The remaining cases consider themselves well; that is, they are free of symptoms. Two cases were treated by fulguration with an immediate relief of symptoms. Time only will tell whether this will be permanent. Of the remaining four cases, two are no longer under observation and the other two have shown an improvement in their condition, this without any treatment. However, these two cases are not entirely free of symptoms.

LEVATOR HERNIA (PUDENDAL HERNIA).

H. C. CHASE, writing in *Surgery, Gynecology & Obstetrics*, for December, 1922, reports a case operated on by the combined abdominal and perineal route. There are only thirteen cases reported in the literature. The condition, therefore, is one of extreme rarity. It has always been considered incurable and, in the thirteen reported cases, operative relief has been undertaken in only five; only one has been reported as a cure; one case had seven major and minor operations without relief; so that the case reported is of unusual interest as the result has been entirely satisfactory.

The author describes the anatomy clearly and gives a very excellent written, as well as pictured, description of the combined operation used for cure. The illustrations really tell more than the text. The reader is, therefore, referred to the original article.

EMBOLECTOMY IN THE TREATMENT OF CIRCULATORY DISTURBANCES IN THE EXTREMITIES.

KEY seems to have had a much wider experience in the surgical treatment of circulatory disturbances in the extremities than most surgeons in this country.

He writes a most interesting article in the March number of *Surgery, Gynecology & Obstetrics* on the relief of gangrene by embolectomy. He claims that it is one of the most satisfactory operations that can be performed in suitable cases. It has been made possible largely by the development of blood vessel surgery, especially by such men as Carrel.

He reports ten operations on nine patients, one patient having an embolism in both legs, and has collected fifty-one cases from the literature, large numbers of these being operated on by Swedish surgeons. In no instance has the operation been fully successful when it has been done more than twenty-four hours after the onset of symptoms.

An embolus will lodge most readily where a vessel divides. In the largest number of cases coming to operation, the embolus has been located in the dividing part of certain large vessels, such as the aorta, the common iliac, the common femoral, popliteal and the axillary.

If the embolus is not removed in time, it goes through the stage of secondary thrombus building. As a result of this, an embolus which at first does not fully close the lumen of the vessel may later cause a complete obstruction. In cases which come to early operation, it is generally easy to distinguish between the original embolus and the secondary thrombus, but in late cases it is either difficult or impossible. Fresh emboli may occur even after the removal of the primary one.

The symptoms that characterize an embolus are partly subjective and partly objective. The subjective symptoms are: sudden pain, a sensation of cold, and disturbance of sensibility. The objective symptoms are: change in color of the skin, lowering of the temperature, disturbed motility, absence of skin and tendon reflexes, and absence of pulsation. A prick from a needle causes no bleeding. The possibility of palpating an embolus depends upon its locality and the corpulence of the patient.

In removing an embolus, the ideal anaesthetic is that with novocaine and adrenalin. The author has overcome the slippery condition of the gloves which takes place with the use of sterilized vaseline by substituting sodium citrate, which prevents blood clotting and renders technic much easier.

After embolectomy, one should immediately investigate to see whether circulation has been completely restored in the extremity.

The field for this kind of surgery is of course limited, but in properly selected cases the results are eminently satisfactory.

RUPTURE OF THE LIVER.

WHITE reports a case of ruptured liver in which he first employed the use of the patient's own blood for re-autotransfusion. He collected the blood found in the peritoneal cavity in a large jar containing 2% sodium citrate solution and immediately after operation re-injected this into the patient's vein. This would seem a logical and valuable method in certain cases.

The author states that auto-transfusion is indicated in active hemorrhage in the abdomen of such gravity as to jeopardize the life of the patient if no other means are at hand to supply the blood. Contamination of the blood in any manner, either by nature of the injury or in preparation of the blood, contraindicates its use. Extra-uterine pregnancy would seem to be the ideal indication for auto-transfusion and has been the most frequent condition in which it has been used.

Rupture of the liver, spleen, gunshot wound of the mesentery, the call for speed, the delay in obtaining a donor, justify the use of auto-transfusion. It is felt that blood from a ruptured uterus or from the pleural cavity should not be used for this purpose, although some operators have done so.

Auto-transfusion has a limited field of application but, when indicated, is a great aid in a serious emergency. It seems free from risk. And blood found in a cavity which is not infected by contamination from a possibly infected uterus or wounds in the intestine is safely used.

WHITE BILE IN THE COMMON DUCT.

The term "white bile" is a misnomer. It is applied to the colorless liquid commonly found in the common and hepatic ducts. Although the gall-bladder often contains a colorless liquid, such a liquid is only rarely found in the common and hepatic ducts. The origin and nature of this so-called "white bile" is undetermined, but it is generally believed that its presence indicates greater operative risk.

In the last four years 649 operations have been performed on the common or hepatic ducts at the Mayo Clinic. In this group, there were 19 in which "white bile" was present; in nine of these obstruction was due to stone in the common or hepatic duct; and in six to trauma at a previous cholecystectomy; in two the obstruction was due to carcinoma, one of the pancreas and one of the ampulla; and in one it was due to pancreatitis; seventeen of the patients were intensely jaundiced at the time of operation and there had been no recent decrease in the jaundice. In these nineteen cases, there were four operative deaths, an average mortality of 21%. While the operative mortality was high, it is probably no higher than it would be in a series of cases of complete biliary obstruction of the same duration with green bile in the common and hepatic ducts. Loss of weight was a striking feature in the histories of these patients, often suggesting malignancy.

The authors state it cannot be assumed that "white bile" indicates that the liver is not secreting. They have seen what they term "liver shock" in certain cases of jaundice which has seemed to come after sudden complete and permanent relief of pressure in the common duct. This shock has usually come on several hours after an operation when the immediate effects of the operation had apparently passed.

Cases in which there is white or colorless fluid in the common duct represent a very serious surgical type. They are not, however, necessarily fatal as the finding of this fluid in the duct does not mean that the liver is interfered with more than in any badly jaundiced patient. This colorless fluid, or so called "white bile," is the product of the glands of the duct wall. It is secreted under sufficient pressure to continue to form regardless of the secretion of bile from the liver and it collects in the ducts only when the activities of the gall-bladder are destroyed. The bile reports of nineteen cases are presented in this article.

LYMPHATICOSTOMY IN PERITONITIS.

W. A. COSTAIN publishes the results of experimental research which go to show that there is a fatal absorption through the thoracic duct in diffuse septic peritonitis. This work was carried out experimentally on dogs and it was shown that damage done to the thoracic duct by the operation was overcome by the establishment of a collateral flow of lymph. By tying the thoracic duct at the root of the neck, the absorption of the toxic material from the peritoneal cavity is stopped, and this cuts definitely short those symptoms which are commonly observed in post-operative peritonitis and demonstrates the wonderful ability of the peritoneal cavity to deal with an inflammatory process when not hampered by absorption.

The author claims that lymphaticostomy is not in itself a dangerous procedure, and may serve to save many desperate cases.

THE EFFICIENT TREATMENT OF ACUTE AND CHRONIC, SIMPLE, TRAUMATIC SYNOVITIS (HAEMARTHROSES AND HYDARTHROSES) BY REPEATED ASPIRATIONS AND IMMEDIATE, ACTIVE MOBILIZATIONS WITHOUT SPLINTING.

C. A. MCWILLIAMS, writing in *Surgery, Gynecology & Obstetrics*, for December, 1922, claims that repeated aspirations combined with active (never passive) motions, and walking without splints afford the best method of treatment of acute and chronic, traumatic, joint synovitis, provided there be no joint mouse nor dislocated meniscus present.

Aspiration should be immediately performed in all types of traumatic joint effusions, as it relieves pain immediately, renders a correct diagnosis more certain, prevents stretching of the ligaments with their consequent weakening, and avoids subsequent muscular atrophy.

Such treatment makes unnecessary all other subsequent physiotherapeutic measures, hence its simplicity makes it applicable to all classes of patients.

Such a method of treatment produces a more perfect cure in one-half of the time that is required by the old immobilization method.

To leave fluid in a knee, the result of trauma, is just as irrational as to leave fluid in a chest unaspirated.

Aspiration of a knee is a simpler procedure and less dangerous than aspiration of a chest, and can safely be performed in a doctor's office or a dispensary, and the patient thereafter can be immediately sent home walking.

The effects of physiotherapeutical measures have been over-estimated, being used empirically and without foundation. They are makeshifts to excuse procrastination in not applying a radical, curative procedure such as aspiration.

Book Reviews.

Lippincott's Nursing Manuals. Nutrition of Mother and Child, by C. ULYSSES MOORE, M.D., M.Sc., (Ped.), Instructor in Diseases of Children, University of Oregon Medical School; Including Menus and Recipes, by MYRTLE JOSEPHINE FERGUSON, B.S., B.S. in H.Ec., Professor of Nutrition, Iowa State College, Ames, Iowa. J. B. Lippincott Company. Price, $2.00.

This volume of 234 pages is one of the best books for the home on the care and nutrition of infants that the reviewer has had the good fortune to read. The style is clear and readable, and the presentation of the contents pays due respect to the intelligence of mother and nurse without ever becoming too technical. The reasons for the various procedures advised are given, and even the physician, on reading this book, has a better understanding of the infant's vitamine and mineral needs, and the factors which may influence the proper development of the teeth.

A monument to the art of breast feeding this work might almost be called. Not only does the author refuse even to consider the question of artificial feeding where breast feeding is possible, but he shows, and very convincingly, how it is possible for most mothers to nurse their babies satisfactorily. For this alone the book deserves consideration and gains in value.

As with all writers on infant feeding, especially where the geographical distribution is wide, Dr. Moore employs minor variations in the dietary from other writers. Two fundamental, modern and invaluable principles he does employ, however: the long feeding interval and the early institution of mixed feeding.

The appendix, with its comprehensive list of food values and recipes, is deserving of attention. Although admittedly written for the mother, the nurse and the social worker, this book can fill a distinct gap in the libraries of many physicians.

Greek Biology and Medicine. By HENRY OSBORN TAYLOR, New York. Boston: Marshall Jones Company. 1922.

This monograph is the third volume in the series, "Our Debt to Greece and Rome," edited by George Depue Hodgsits of Philadelphia and David Moore Robinson of Baltimore. Its object is to indicate the debt of the modern world to ancient biology and medicine, for which we are indebted to the Greeks chiefly and not to the Romans, whose genius was rather economic and military than artistic and scientific. The author sketches successively the work of Anaximander, Anaxagoras, Empedocles, Democritus,

Heraclitus, Hippocrates and his followers, Aristotle, Theophilus, Erasistratus, Celsus and Galen. A terminal chapter describes the linkage with modern times through Paracelsus, Avicenna, Vesalius, Paré, Harvey and Sydenham. Appendices contain valuable notes and bibliography and a convenient brief chronologic outline of influence of Greek biology and medicine.

The New Physiology in Surgical and General Practice. By A. RENDLE SHORT, M.D., F.R.C.S. (England). Fifth edition. New York: Wm. Wood & Co. 1922.

This book is not merely all that is implied in the title but deserves to be classed as one of the most interesting and readable books in medical literature. While the conventional text-book style might be more valuable for reference, Short's manner of dealing with his subject renders it so entertaining that it may be read from cover to cover with enjoyment. Yet scientific accuracy, impartial discussion, and conservative opinion are never sacrificed to readability. The present volume has been thoroughly revised and brought up to date in all respects, while still keeping constantly in mind the practical application of every topic to the daily use of the practicing physician or surgeon. Among the most interesting chapters is one on the etiology of appendicitis, which advances some very convincing evidence which is original with the author. Other topics which are especially well discussed are muscular exercise, food deficiency diseases, the growth of bone, surgical shock, the heart, the kidneys, and the nervous system. In brief, "The New Physiology in Surgical and General Practice" is an admirably written, concise, accurate exposition of applied physiology.

Getting Ready to Be a Mother. By CAROLYN CONANT VAN BLARCOM, R.N. New York: The Macmillan Company. 1922.

Miss Van Blarcom has put together a very satisfactory little book on "the advice about simple everyday little things" for the average normal pregnant woman. It is a safe book to put into the hands of pregnant patients, and if the advice that is given be followed much good will come of her book. The lack of any index in the book is a real fault which in future editions should be corrected.

Obstetrical Nursing. By CAROLYN CONANT VAN BLARCOM, R.N. With 200 illustrations and 8 charts. New York: The Macmillan Company. 1922.

This book is a most excellent exposition on obstetrical nursing. Had Miss Van Blarcom held to the nursing problems and technique alone she would have given the nurses a book which would rank very high; as it is, she has touched on medical problems and has made not a few inaccurate statements.

The chapter on "Organized Pre-natal Work" is the best the reviewer has recently seen and will prove of immense value. The illustrations, on the whole, are well selected and adequate, but is it not time to banish forever from obstetrical books that terrible method of resuscitating babies shown in Figures 94 and 95?

The book deserves and will have undoubtedly much success.

Practical Physics. By J. A. CROWTHER, Sc.D., F. Inst. P. London: Henry Frowde and Hodder & Stoughton. Pp. 260. Price, $3.25.

"Practical Physics" is intended by the author to be a companion book to his "Manual of Physics." It consists of 144 fundamental experiments in physics, divided among the subjects of Mechanics and Hydrostatics, Heat, Light and Sound, Magnetism and Electricity. There is a preliminary chapter on practical measurements, illustrated by experiments.

We believe it to be an excellent book for the student and a book to which one might refer to refresh his memory regarding the fundamental principles of this science.

Multiple Sclerosis. This book is a report of an investigation by the Association for Research in Nervous and Mental Diseases. New York: Paul B. Hoeber. The various sections of the book are presented by different members of the Editorial Committee: WALTER TIMME, M.D., New York City; CHARLES B. DAVENPORT, Ph.D., Washington, D. C.; PEARCE BAILEY, M.D., New York City; LEWELLYS F. BARKER, M.D., Baltimore, Maryland; ISRAEL S. WECHSLER, M.D., New York City; CHARLES L. DANA, M.D., New York City; E. D. FRIEDMAN, M.D., New York City.

Every phase of this subject has been very thoroughly discussed by the different writers.

It appears from the discussion in this book that multiple sclerosis is a much more common disease than has been generally supposed. This work should commend itself to all physicians and neurologists who are interested in nervous diseases as a valuable reference book on this important subject.

At the end of each section the conclusions of the discussions are very clearly stated.

It is a book of about 200 pages, well written and printed on excellent paper.

Syphilis. By BURTON PETER THOM. New York: Lea & Febiger. 1922. Pp. 520. Price $5.50.

A very excellent review of the work done on experimental syphilis, and the laboratory aspects of syphilis are presented and a chapter devoted to other protozoal infections by way of compar-

ison. Then comes a long chronological account of syphilis, largely as seen on the skin and mucous membranes and in the central nervous system, accompanied by very fine photographs, largely from Dr. M. B. Parounagian's collection. Congenital syphilis receives but scant notice. Then follows a long chapter in detail on treatment, on the whole good, but advising excision of the chancre, both dangerous to the operator and hardly consistent with his discussion in an early chapter of Neisser's work in trying to abort syphilis by excising the point of inoculation long before the primary could develop, in one series syphilis developing just the same; and with Brown and Pearce's work on rabbits in increasing the virulence of the disease by removing or suppressing the primary. Then follow chapters taking up syphilis as it affects the various systems and in connection with other diseases. A fine but very short chapter on syphilis in the aged emphasizes as do hardly any other books the need of extreme caution in treating the disease in old people, even though it be an early infection; it is very easy under the best circumstances to inflict great harm by zealous therapeutic measures in old people. Industrial efficiency, insurance, and the law, as they affect or are affected by syphilis, are dealt with in the closing chapters. In places the first person singular seems to be a little prominent, but the book shows familiarity with a vast amount of the literature on syphilis. The value would have been increased by including a bibliography.

Venereal Disease in the American Expeditionary Forces. By GEORGE WALKER, Late Colonel, Medical Corps, U. S. A. Baltimore: Medical Standard Book Co.

He discusses the reasons for adopting prophylaxis in the Army, the different steps in its improvement, many charts showing from many different angles the failures and successes and their reasons. He advises that prophylaxis be applied to the public, believing from a study of the problem in the Army that prophylaxis does not lead to greater promiscuity, and does greatly diminish venereal diseases; the colored troops showed this well, for they would not report for prophylaxis, and their disease rate was far in excess of the white troops; when compulsory prophylaxis, regardless of exposure, was consistently carried out, the disease rate dropped from 625 to 110 per thousand within three months. He feels that "much of the glamour and romance of illicit 'love' will be lost if men can be impressed with the necessity of prophylactic measures after each exposure," actually reducing, not increasing exposures. The combined reports of the A. E. F. showed a failure rate of prevention in only 1.3% after prophylaxis.

Within a week of the landing of the first contingent a new plan was adopted, that of penalizing the presence of venereal disease. A few months later official disapproval of the open houses of prostitution was issued, in spite of the fact that the British, French, and Belgians had encouraged them. In the summer of 1918 all houses of prostitution were "closed" to American soldiers by placing them out-of-bounds. Association with women of the streets then came to the fore and was dealt with only with difficulty. The liquor problem was practically impossible of solution. The book touches many other phases of the subject and gives a most excellent record of the work accomplished in the Army and Navy and some comparison with the work along similar lines by the other combatants.

A Text-Book of the Practice of Medicine. By various authors. Edited by FREDERICK W. PRICE. London: Oxford Medical Publications. 1922.

This book, containing 1650 ordinary sized pages, covers the field of general medicine very thoroughly *by topic*. In fact, in glancing through it one encounters every diagnosis. More careful observation, however, reveals the fact that brevity in description is the outstanding feature of the work. We find, for example, that syphilis is allotted 25 pages, fever 8, diphtheria 12, lobar pneumonia 10, acidosis and allied conditions 3, and diabetes mellitus 9! Considering the task attempted, the result is praiseworthy.

How We Resist Disease. By JEAN BROADHURST, Ph.D., Assistant Professor of Biology, Teachers' College, Columbia University. J. B. Lippincott Company. 1923.

The author's aim,—"to put into clear and simple language the main principles of immunity, covering in a general way the most important preventive and curative processes"—has been well attained. The subject of active and passive immunity is particularly well handled, and other important biological principles are presented in a clear, thorough, though concise manner. This manual should be especially valuable to nurses, and to college undergraduates who desire accurate, elementary instruction relating to the fundamental subjects in medicine.

Diseases of the Skin, a Manual for Students and Practitioners. By ROBERT W. MACKENNA of Liverpool. New York: William Wood & Co. 1923. Pp. 451. Price $6.50.

This book is one more somewhat simplified text-book of dermatology of which several have come out recently. The subject is sensibly and readably presented; the illustrations are of striking cases and very good.

Current Literature Department.

ABSTRACTORS.

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ECHINOCOCCUS DISEASE OF THE KIDNEY.

KRETSCHMER, H. L. (*Surg., Gyn. and Obstet.*, February, 1923) reports an interesting case of his own of this extremely rare condition, and gives statistics dealing with the occurrence of echinococcus disease of the kidney. He also gives tables showing the nationalities most frequently affected, and reports in some detail 17 other cases.

This is the only article on this subject that has appeared in recent literature, and therefore brings the subject well up to date. [E. H. R.]

IMMEDIATE VERSUS DELAYED OPERATION IN CASES OF COLLAPSE FOLLOWING RUPTURED ECTOPIC PREGNANCY.

HAWKS, E. M. (*Surg., Gyn. and Obstet.*, February, 1923) makes a plea for immediate operation in these cases as soon as diagnosis is made, and gives statistics showing that immediate operation is followed by a much lower mortality than in cases in which the expectant treatment and deferred treatment were used. The following facts are of interest:

(1) Deaths from hemorrhage are not uncommon.

Of 824 cases of ectopic pregnancy, 187 were prostrated from hemorrhage.

There were 10 deaths from hemorrhage in 74 of these cases. The remaining 113 were operated upon immediately.

The Medical Examiner's office has recorded 21 deaths from hemorrhages in the last four years.

The records of the Board of Health show that in 1921 there were 20 deaths from ectopic gestation in the Borough of Manhattan, and that 5 of the 20 died from hemorrhage unoperated upon.

(2) The immediate operation in the serious cases gives the better result.

Mortality in 113 consecutive cases of collapse operated upon immediately in three institutions was 8.8 per cent.

Mortality in 71 cases of collapse with expectant treatment and deferred operation in two institutions was 17 per cent.

In a more recent series of 21 consecutive cases of collapse in one institution, operated upon immediately, there was one death. [E. H. R.]

THE SURGICAL IMPORTANCE OF IODINE IDIOSYNCRASY AND POISONING.

ROWELL, H. G. (*Surg., Gyn. and Obstet.*, February, 1923) writes as follows:

A very definite iodine allergy exists, closely related to, if not the same as, iodine poisoning and iodism, and identical in toxicology with its salts, the iodides, to which iodine is converted on absorption.

Cases of allergy closely resemble in symptoms those of poisoning, and may be considered practically the same clinically, the chief difference being the amount of iodine absorbed.

While the condition is undoubtedly rare, precautions indicated are careful history and reasonable effort to prevent absorption, confining the action of the iodine to a local one. Early removal by alcohol is excellent. The technique of painting a postoperative wound with iodine has unfortunate possibilities. In doubtful or suspicious cases, use some other disinfectant. The obsolete use of iodine in ovarian cysts needs only mention.

In postoperative cases showing suggestive symptoms, test for the drug and institute appropriate treatment, depending on extent and type of symptoms.

A possible danger exists in the frequent use of iodine by the laity for early sterilization of open wounds. In surgery of compound fractures the full strength solution should be used with discrimination. A careful inquiry into previous reaction helps avoid fatal accidents.

In cases with marked idiosyncrasy, even painting the skin with iodine may cause symptoms, small amounts causing the effect.

Transfusion, when used, should be repeated whenever the patient is losing ground. Once may not be sufficient.

Iodides are commonly used in the treatment of syphilis, and in operating on this class of patient, or any patient previously treated with iodide, the previous reaction to the drug should be determined before one uses iodine again.

In spite of the efficiency of certain iodine salts as injections for urological x-rays, we must recognize a theoretical danger in their use.

In industrial plants where iodine or its fumes have been present, the workmen have sometimes shown symptoms of acute or chronic poisoning. Treatment of their injuries with iodine must be potentially dangerous.

I do not feel that iodine should be discarded as a disinfectant. The removal of the drug by alcohol immediately after application is desirable, and to a large extent should prevent the accidents of which the history does not forewarn us. [E. H. R.]

THE HEALING OF GASTRIC ULCER.

STEWART, M. J. (*Brit. Med. Jour.*, Dec. 16, 1922) discussing the healing of gastric ulcer, summarizes his opinions on the subject as follows:

1. Healing of gastric and duodenal ulcer is a common event. Statistics are given to show that, in the *post-mortem* room, scarring is met with almost as frequently as gastric ulceration, while duodenal scars occur with about half the frequency of duodenal ulcers. This difference may be partly accounted for by the greater liability of duodenal ulcers to perforate.

2. Single and multiple gastric scars are met with in the ratio of 4 to 1, which is exactly the same as the ratio of chronic to acute ulcers. It is suggested from this that acute and chronic ulcers have an equally good chance of healing.

3. Hour-glass contraction of the stomach is met with in about 6.5 per cent. of all cases of completely healed gastric ulcer—that is to say, in about 8 per cent. of cases of healed chronic ulcer. The incidence of pyloric stenosis is little more than half this.

4. There is no evidence from the present observations that carcinoma arises in connection with gastric scars, whereas in a series of 98 stomach specimens received from the operating theatre and submitted

to microscopic examination, the incidence of carcinoma in cases of simple chronic ulcer was 11.5 per cent.

5. Gastric scars are not always conspicuous, and must be carefully looked for after gently wiping away adherent mucus or food materials. The presence of adhesions or of fibrous thickening on the peritoneal coat is confirmatory, as, on section, is replacement of the soft greyish muscular wall by dense white fibrous tissue.

6. Conclusive histological evidence of scarring is afforded by the presence of fibrosis of the muscular coat. This can be most conveniently demonstrated by means of Mallory's connective-tissue stain (acid fuchsin, anilin blue, orange G), which is especially suitable for naked-eye and low-power work.

7. It follows from 5 and 6 that only ulcers which have definitely involved the muscular coat leave a permanent scar, and one which can be unmistakably recognized both by naked-eye inspection and by microscopical examination. The most striking scars are, of course, those of ulcers which have completely perforated the muscular coat.

8. When an ulcer heals the continuity of the mucosa is completely restored, but it is usually thinner than normal, and less well supplied with glands. There is no evidence as to whether or not a gastric or duodenal scar readily re-ulcerates, although it is perhaps a legitimate assumption that the thinner mucosa, together with the less vascular fibrous tissue underneath, will be more vulnerable than the normal mucous membrane. It is possible, on the other hand, that certain ulcer-producing factors may have disappeared as a result of this cicatrization, and there is evidence to show that the well-known recurrent character of the lesion may be dependent rather on the formation of a new ulcer or ulcers than on a breaking down of the old. [R. C.]

Remarks on Hodgkin's Disease.

Galloway, J. (*Brit. Med. Jour.*, Dec. 23, 1922) discusses a most interesting case of Hodgkin's Disease, in which he discovered an unusual form of protein in the urine somewhat similar to the "Bence-Jones Albumin," in that it coagulated on heating, redissolved on further heating, and reappeared on cooling. He also points out the various differences between this new protein and the Bence-Jones Albumin. He discusses the cutaneous manifestations to be observed in Hodgkin's Disease, and devotes considerable space to the different methods of treatment. The whole of this article is well worth reading. [R. C.]

Further Clinical Experience with Insulin.

Banting, F. G., Campbell, W. R., and Fletcher, A. A. (*Brit. Med. Jour.*, Jan. 6, 1923) give the following summary of the results of their investigation:

1. Under treatment with insulin in patients who are not otherwise amenable to treatment:

(*a*) Glycosuria is abolished;

(*b*) Ketones disappear from the urine and the blood;

(*c*) Blood sugar is markedly reduced, and maintained at normal levels;

(*d*) The alkali reserve and alveolar carbon dioxide of patients in acidosis and coma return to normal;

(*e*) The respiratory quotient shows evidence of increased utilization of carbohydrates;

(*f*) The cardinal symptoms of diabetes mellitus are relieved, and the patients show well-marked clinical improvement.

2. Insulin is a specific in the treatment of diabetic coma.

3. Certain procedures are suggested as a guide in the administration of insulin.

4. Hypoglycaemic reactions in man have been studied and described.

5. Hypoglycaemic reactions following insulin are relieved by the administration of carbohydrates, and also by the injection of epinephrin. [R. C.]

Purpura Treated by Injection of Human Blood.

Dixon, M. (*Brit. Med. Jour.*, Jan. 6, 1923) gives four cases of purpura treated by the injection of human blood. He makes the following summary:

"The unfailing success of the treatment of hemorrhage of the newborn by injection of parental blood suggested to me the use of the same method in purpura. The result has been most encouraging, and I venture to hope that in this method of treatment, applied at the very onset of the disease, we have a sure way of curing it.

I have injected 2 to 5 c. cm. of blood, taken from the brachial cephalic vein, into the gluteal muscles. Clotting is prevented by sterilizing the syringe and needle in a solution of magnesium sulphate. I have used the method in four cases, with gratifying results in all, and in the very early cases with complete abortion of the attack." [R. C.]

Quinidine in Auricular Disease.

Parkinson, J., and Nicholl, J. W. McK. (*The Lancet*, Dec. 16, 1922) after observing the action of quinidine upon 35 cases of auricular disease, draw the following conclusions:

In *paroxysmal auricular fibrillation* quinidine is indicated, for in some cases it either inhibits the attacks or reduces their incidence; and no other drug, not even digitalis, will do this.

In *paroxysmal tachycardia* quinidine proves to have little or no effect.

In *auricular flutter* it is likely to prove valuable, for it sometimes restores normal rhythm directly, and if not, it may succeed after digitalis alone has converted flutter to fibrillation, but not to normal rhythm.

In a small proportion of cases with *established auricular fibrillation*, quinidine restores normal rhythm, which continues indefinitely with great clinical benefit. In most cases quinidine is unsuccessful, in that normal rhythm is not restored, or when restored is not maintained, or restoration is unattended by clinical improvement.

After explaining its limitations to the patient, a trial of quinidine should be made—but not to the degree of toxic doses—in chosen cases of auricular fibrillation where there is no history of embolism, no great enlargement of the heart, and no serious failure. It offers a chance of exceptional relief; and if it fails, digitalis is still at hand as the remedy almost unfailing. [R. C.]

Drugs in the Treatment of Diabetes Mellitus.

Cammidge, P. J., Cairns, J. A., and Howard, H. A. (*The Lancet*, Dec. 23, 1922) in a discussion of the treatment of diabetes mellitus by drugs, conclude with the following summary:

"It is unlikely that treatment by drugs will ever replace control of the diet in diabetes, and we wish emphatically to disclaim any intention of suggesting that lack of care in working out an appropriate diet can be compensated by the administration of drugs. Our object has been to show, first, that if the food tolerance has been accurately determined, and is found to be inadequate, then, and only then, the aid of appropriate drugs may be invoked to enable a

maintenance diet to be taken, and prolong the patient's existence under more comfortable conditions; second, to record our experiments, indicating the way in which various drugs control carbohydrate metabolism, thus laying the foundations of a rational therapy. In diabetes, as in other disorders, accurate diagnosis is the only sure basis of treatment, and we believe it is essential if the best results are to be obtained that the pancreatic, hepatic, and other types we have described should be differentiated by analyses of the blood, urine, and faeces before serious treatment is commenced." [R. C.]

Syphilis of the Lung.

Munro, W. T. (*The Lancet*, Dec. 30, 1922), discussing syphilis of the lung, summarizes his conclusions as follows:

1. Acquired syphilis of the lung may occur in three conditions: (1) Gummata, (2) fibroid induration, (3) areas of consolidation and catarrh.
2. Fibroid induration is the most common.
3. In these cases the initial lesion would appear to be at the right base.
4. No patient of this type was under 35 years of age.
5. The shortest time between infection by the spirochaete and symptoms referable to the chest was three and a half years.
6. Antisyphilitic treatment in the early stages is to be recommended, but when bronchiectasis is well established, treatment is not likely to lead to improvement.
7. Two cases of focal disease were found.
8. Both improved on treatment. This condition will occur in younger patients.
9. Congenital syphilis of the lung may be common, and responds to treatment. [R. C.]

Cancer of the Larynx: Is It Preceded by a Recognizable Precancerous Condition?

Jackson, C. (*Annals of Surgery*, January, 1923) writes as follows:

While there is here offered some evidence bearing on the histology of precancerous conditions, this evidence is not conclusive.

Clinical work is not, and never can be, ideally perfect. We are human and our patients are human. We cannot expect in our clinical work on the living human being to attain even to the relative certainty of the post-mortem room.

As laryngologists we are concerned with saving human lives from the inroads of a "dire disease," which is the appellation applied to cancer of the larynx by Sir Henry Butlin.

If we admit, as I think we should, that certain curable laryngeal conditions are in some cases the sequential predecessors of frequently incurable cancer, it is clearly our duty not only to eradicate those curable precancerous conditions, but to contribute to their early recognition by applying to them the term "precancerous," however faulty such a word may be from a purely scientific, histologic point of view.

From a clinical point of view we may regard continual laryngeal irritation from any cause, chronic laryngitis, keratosis, syphilis, pachydermia, so-called prolapse of the ventricle, and benign growths, occurring in a person of cancerous age, as clinically precancerous, in the sense that they may be contributory factors in the etiology of cancer, and as such should be cured, surgically or otherwise, as may be indicated.

It is no argument against this life-saving rule to contend that these conditions are too rarely predecessors of cancer to justify regarding them as etiologic factors in cancer. There is no known agent causative of any disease that will always, in all individuals, under average conditions of exposure, produce that disease. The human race would be extinct if such were the case.

The time has come for the laryngologist to follow the lead of the general surgeon and the gynecologist in the recognition of the necessity of curing cancer before it starts.

There will be fewer deaths from laryngeal cancer when every member of the medical profession fully realizes the frequently malign nature of chronic hoarseness. [E. H. R.]

Arterial Decortication and Periarterial Sympathectomy.

Two Articles: one by Callander, C. L., and one by Lehman, E. P. (*Annals of Surgery*, January, 1923).

The two articles form a very interesting but short symposium on this rather obscurely studied subject. Both authors quote the unusual and almost spectacular results reported by Leriche, but neither of the authors can confirm his results experimentally or on a human subject. The vaso-dilatation reported by Leriche as being a constant factor for sympathectomy was found by both of these authors to be a very uncertain and temporary result, and in no way did it affect wound healing. Some benefit may be expected in certain well-selected cases of pain and gangrene from arterial decortication, but so little is known of the sympathetic control over the vascular system that results are as yet bound to be very uncertain. It, however, offers an attractive field for investigation. [E. H. R.]

Aluminum-Potassium Nitrate in the Treatment of Suppurative Conditions, Particularly Osteomyelitis.

Thorek, M. (*Annals of Surgery*, January, 1923) draws the following conclusions:

That the treatment herein described is not in any degree a substitute for rational surgery, but must be considered as a preoperative treatment in badly infected cases, enabling the surgeon to later work under more favorable conditions.

As a postoperative treatment in infected cases, irrespective of whether the case was previously or subsequently infected.

As a procedure in those cases that have failed to respond to previous surgical measures, and those patients who persistently decline operation.

Removal of sequestrae is in all cases advisable.

The aluminum-potassium nitrate compound is not an antiseptic, but, on the other hand, is a definite accelerator of bacterial growth, tending by rapid propagation to lower the vitality of the infecting organisms, thereby assisting the normal resisting powers of the body to eliminate the invading organism.

Unlike most antiseptics, the aluminum-potassium nitrate compound does not attack normal tissues, and does not interfere with granulation or the osteogenetic efforts of nature.

Pain, which in most cases is the result of infiltration and consequent tension, is very quickly relieved, due to prompt autolysis and liquefaction, relieving tension by absorptive elimination through sinus or systemic absorption.

Over 75 per cent. of our cases become ambulatory, and are able to pursue their vocations, coming to the clinic for dressings—in contrast to the radical surgical procedures of the past, thus eliminating long hospitalization, and later invalidism, with its attendant expense.

The method is relatively simple, may be used within wide limits, and employs a non-toxic medicament. [E. H. R.]

Cholecystostomy versus Cholecystectomy.

O'Day, J. C. (*Annals of Surgery*, January, 1923) believes that the present enthusiasm for removal of the gall-bladder under any seeming provocation is a step too far, and that, unless the gall-bladder is distinctly thickened, and the seat of chronic or acute inflammation, it should not be at first removed. If there is a question of its functioning recovery, it should be given the benefit of the doubt and drained only. He speaks of the shock-absorbing function of the gall-bladder when connected with the system of pipes represented by the various gall ducts, and believes that much harm comes from its premature removal or its removal when it is even semi-functioning. [E. H. R.]

The Bile Factor in Pancreatitis.

Mann, F. C., and Giordano, A. S. (*Arch. of Surg.*, January, 1923) present a beautifully illustrated and very thorough piece of experimental work on this subject. They investigated the possible pressure that the existing physiologic mechanism could exert in order to inject the bile into the pancreatic duct. They injected sterile bile into the pancreatic duct at the maximum pressure that could occur in the common duct, and ligated the common duct also in an effort to produce stasis.

"Our investigation has proved that an anatomic and physiologic basis for the theory that reflux of bile may occur in the pancreatic duct does exist. The evidence indicates that such a reflex of bile may rarely be the cause of chronic pancreatitis. The number of instances in which the necessary anatomic conditions are present for such an occurrence is very small. The possibility of bringing into play a physiologic mechanism which can infiltrate the pancreas with sterile bile to an extent actually to produce acute pancreatitis is questionable. Granted that the necessary anatomic, physiologic, and pathologic factors are present, and that the reflux of sterile bile under such conditions does produce pancreatitis, such cause for the condition must be very rare; few cases are on record. A reflux of bile could not have been the cause in any of our cases of acute pancreatitis. It should be noted that any mechanism which will afford the possibility of bile's passing into the pancreatic duct will also obstruct the flow of pancreatic juice. Furthermore, bile has been found in the pancreatic duct without acute pancreatitis. Pathologists should, in all cases of pancreatitis, examine the relationship of the two ducts to the duodenum, and to each other, in order to determine whether it is anatomically possible for bile to pass into the pancreatic duct. Our data conclusively prove that we must look elsewhere for the explanation of the cause of most cases of pancreatitis." [E. H. R.]

End-Results of Five Hundred Cases of Chronic Appendicitis.

Deaver, J. B., and Ravdin, I. S. (*Arch. of Surg.*, January, 1923) from a statistical study draw the following conclusions:

Few cases of chronic appendicitis are observed in the first decade.

There is a variation of sex and age incidence in the second and third decades.

The most frequent symptom is periodic pain in the right iliac fossa, and in a patient carefully studied this symptom is suggestive.

A normal appendix was removed in 3.8 per cent. of our cases.

The symptoms of the seven cases of tuberculous appendicitis, and one of carcinoma, did not differ in any way from the remaining cases in our series.

The mortality of the cases in which operation was performed during the quiescent period was 0.27 per cent., while in those in which operation was performed during the acute stage it was 2.7 per cent.

There seems to be a definite relation between appendicitis and upper abdominal disease, and between appendicitis and pelvic disease.

Hematemesis may be a manifestation of chronic appendicitis.

The average postoperative incapacitation was five and seventy-three hundredths weeks.

Eighty-three and one-tenth per cent. of the patients followed up were entirely relieved, 9.7 per cent. were partially relieved, and 7.07 per cent. were unrelieved.

The latter group was partly due to pathologic conditions, unrecognized because of faulty study and exploration. [E. H. R.]

Outline of Treatment of Fractures.

(*Archives of Surgery*, January, 1923).

Twenty-two pages of this volume of the *Archives of Surgery* are devoted to the syllabus adopted at the Boston Conference on the treatment of fractures, in April, 1922.

For a long time there has been a strong desire among surgeons to simplify and standardize the treatment of fractures. Individual preferences before the war were so diverse that this seemed impossible: but, since the experience of the war, it is more and more likely that an attempt to standardize fracture treatment could be made successfully.

This outline was agreed upon by a large gathering of representative surgeons of the United States and Canada, who are particularly interested in the treatment of fractures. It is divided into the following subdivisions:

Directions for Giving First Aid,
Examination of the Fracture,
Diagnosis,
Treatment,
Use of Massage and Motion,
Operative Treatment.

This article contains some excellent drawings of the operation and recommended method of putting up various types of fractures.

It is hoped that this article will be thoroughly read and studied, especially by the general practitioner, to whom it is of the utmost concern. [E. H. R.]

Notes on the Limit of Usefulness of Fish in Larvae Control.

Monroe (*Am. Jour. of Trop. Med.*, Jan., 1923) draws the following conclusions: (1) An average larvae consumption of the class of fish generally used is about 150 per day. (2) Bottom feeding fish are rather more efficient for their weight than top-feeders. (3) When breeding is found in barrels in which there are fish it is not because of refusal of the fish to eat, but because of the presence of a number of larvae beyond the limit of its possibilities to control. [G. C. S.]

Bronchial Spirochetosis.

Huizenga (*Am. Jour. of Trop. Med.*, March, 1923) reports that this disease is common in certain localities in China and was found in Europe during the World War. A good clinical description of the acute and chronic forms is given. [G. C. S.]

THE ANNUAL MEETING.

FELLOWS of the Society should make plans for attending the Pittsfield meeting if possible. The program is attractive and our members in the Western part of the State have arranged for the entertainment of visitors on a large scale. If our Eastern members do not attend this meeting how can we expect our Western friends to take the time to come to Boston in the future? An enthusiastic response to this invitation will accomplish much in promoting interest in the affairs of the Society.

The Massachusetts Medical Society.

ONE HUNDRED AND FORTY-SECOND ANNIVERSARY TUESDAY, JUNE 12, AND WEDNESDAY, JUNE 13, 1923,

AT THE MAPLEWOOD HOTEL, PITTSFIELD.

GENERAL INFORMATION.

A Bureau of Information will be maintained by the Committee of Arrangements during Tuesday and Wednesday at the office of the Maplewood Hotel. A folder containing full information concerning accommodations, entertainments, and amusements will be distributed there.

All Fellows are requested to register and procure their badges and dinner tickets as soon as they arrive.

A cordial invitation is given to the wives and families of Fellows to attend the convention. The local Committee of Arrangements has made plans, through their ladies' committee, to entertain the families during the two days of the meeting. Fellows will please indicate on the post card previously sent the number of ladies who will accompany them and also supply the information to the Bureau of Information on arriving.

TUESDAY MORNING, JUNE 12, 1923.

Tuesday morning will be given up to recreation. There will be golf and tennis at the country clubs and automobile sightseeing. Please apply at the Bureau of Information. Those wishing to enter golf or tennis tournament will please notify Dr. M. H. Walker, Jr., 18 Bank Row, Pittsfield, in advance, stating home club handicap.

TUESDAY AFTERNOON, JUNE 12, 1923.

MEETING OF THE SECTION OF MEDICINE.

MAPLEWOOD HOTEL, AT 2 O'CLOCK.

Officers of the Section of Medicine.

Brace W. Paddock, Pittsfield, Chairman.
Francis M. Rackemann, Boston, Secretary.

1. Psychotherapy.
   By Dr. Austen F. Riggs, Stockbridge.
   Discussion opened by Dr. Stanley Cobb, Boston.
2. The Value of Examination of Renal Efficiency for the Diagnosis of Kidney Disease.
   By Dr. Warfield T. Longcope, Baltimore, Md.
   Discussion by Dr. James P. O'Hare, Jamaica Plain (Boston), and W. Richard Ohler, Jamaica Plain (Boston).
3. Focal Infection in Relation to Systemic Disease.
   By Dr. W. Gilman Thompson, New York City.
   Discussion opened by Dr. Everett A. Bates, Springfield.
4. Syphilis with a Negative Wassermann Reaction.
   By Dr. C. Morton Smith, Boston.
   Discussion by Dr. Winford O. Wilder, Springfield, and Dr. Nathan Finkelstein, Pittsfield.
5. Diabetes, Insulin, and the General Practitioner.
   By Dr. Elliott P. Joslin, Boston.
   Discussion by Dr. Augustus K. Boom, Adams, and Dr. Reginald Fitz, Boston.

MEETING OF THE SECTION OF SURGERY.

MAPLEWOOD HOTEL, AT 2 O'CLOCK.

Officers of the Section of Surgery.

John B. Thomes, Pittsfield, Chairman.
George A. Leland, Jr., Boston, Secretary.

1. Acute Perforations of the Stomach and Duodenum, with Particular Reference to End-Results.
   By Dr. Charles L. Gibson, New York City.
   Discussion by Dr. Homer Gage, Worcester, and Dr. John M. Birnie, Springfield.
2. How the Symptomatology is but the Outward Manifestation of the Pathology in Ectopic Pregnancy.
   By Dr. John Osborn Polak, Brooklyn, N. Y.
   Discussion by Dr. Ernest L. Hunt, Worcester, and Dr. Stephen Rushmore, Boston.

MEETING OF THE SECTION OF HOSPITAL ADMINISTRATION.

MAPLEWOOD HOTEL, AT 2 O'CLOCK.

Officers of the Section of Hospital Administration.

John J. Dowling, Boston, Chairman.
Edmund W. Wilson, Boston, Secretary.

1. Functions of a Municipal Hospital.
   By Dr. Francis W. Peabody, Boston.
2. Municipal Hospitals from a Trustee's Viewpoint.
   By Dr. Henry S. Rowen, Brighton (Boston).
3. Some Newer Developments in Hospitals.
   By Mr. Charles A. Coolidge, Architect, Boston.

ANNUAL MEETING OF THE SUPERVISING CENSORS.

MAPLEWOOD HOTEL, AT 4 O'CLOCK.

ANNUAL MEETING OF THE COUNCIL.

MAPLEWOOD HOTEL, AT 4.30 O'CLOCK.

Following the meeting of the Council tea will be served to the Fellows, their families, and guests at the hotel, the funds being derived in part from the income of the bequest of the late Benjamin Eddy Cotting. Tea will be served also at the Country Club, to the ladies, at 4 o'clock.

TUESDAY EVENING, JUNE 12, 1923.

THE SHATTUCK LECTURE.

MAPLEWOOD HOTEL, AT 8 O'CLOCK.

Some Peripheral Nerve Problems.
By Dr. Dean Lewis, Chicago, Ill.

After the lecture there will be a reception to the President, a buffet supper, and dancing. All the Fellows and their families are invited.

WEDNESDAY MORNING, JUNE 13, 1923.

MEETING OF THE SECTION OF TUBERCULOSIS.

MAPLEWOOD HOTEL, AT 9.30 O'CLOCK.

Officers of the Section of Tuberculosis.

Edward O. Otis, Boston, Chairman.
Sumner H. Remick, Reading, Secretary.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

1. The General Management.
   By Colonel George E. Bushnell, U. S. A. (Retired), formerly in charge of the U. S. A. Sanatorium, Fort Bayard, New Mexico.
2. The Sanatorium Treatment.
   By Dr. Ernest B. Emerson, Superintendent and Physician-in-Chief, Rutland State Sanatorium.
3. The Home Treatment.
   By Dr. Edgar T. Shields, Field Secretary, National Tuberculosis Association, New York.
4. The Symptomatic Treatment.
   By Dr. Edward O. Otis, Boston.

General discussion opened by Dr. Francis E. O'Brien, Haydenville, Superintendent Hampshire County Sanatorium, and by Dr. Henry Colt, Pittsfield.

MEETING OF THE SECTION OF PEDIATRICS.

MAPLEWOOD HOTEL, AT 9.30 O'CLOCK.

Officers of the Section of Pediatrics.

Alexander C. Eastman, Springfield, Chairman.
J. Herbert Young, Newton, Secretary.

1. Heart Murmurs in Infancy and Childhood.
   By Dr. John Lovett Morse, Boston.
2. The Treatment of Whooping-Cough in Private Practice.
   By Dr. William W. McKibben, Worcester.
3. Factors Governing Gain in Weight in the First Year.
   By Dr. Fred H. Allen, Holyoke, and Dr. Edward P. Bagg, Jr., Holyoke.
4. Intracranial Hemorrhage in the Newborn.
   By Dr. Richard S. Eustis, Boston.

MEETING OF THE SECTION OF OBSTETRICS AND GYNECOLOGY.

MAPLEWOOD HOTEL, AT 9.30 O'CLOCK.

Officers of the Section of Obstetrics and Gynecology.

Charles E. Mongan, Somerville, Chairman.
Frederick C. Irving, Boston, Secretary.

1. The Convulsive Toxemia of Pregnancy and Its Treatment.
   By Dr. Ross McPherson, New York City.
   Discussion by Dr. D. M. Ryan, Ware, Dr. Clifford S. Chapin, Great Barrington, and Dr Edward B. Kellogg, Boston.
2. Round Table Conference.
   How Can the Section of Obstetrics and Gynecology Be Made Most Valuable to the General Practitioner?
   Discussion opened by Dr. Alfred H. Quessy, Fitchburg, Dr. Burton E. Hamilton, West Roxbury (Boston), and Dr. Thomas R Goethals, Brookline.
   General Discussion.

WEDNESDAY NOON, JUNE 13, 1923.

ANNUAL MEETING OF THE SOCIETY.

MAPLEWOOD HOTEL, AT 12 O'CLOCK.

Business of the Annual Meeting.

WEDNESDAY AFTERNOON, JUNE 13, 1923

THE ANNUAL DISCOURSE.

AT 1 O'CLOCK.

The Physical Examination of Apparently Healthy Individuals, Its Importance, Limitations, and Opportunities.
By Dr. Roger I. Lee, Cambridge.

THE ANNUAL DINNER.

MAPLEWOOD HOTEL, AT 2 O'CLOCK.

Tickets for the dinner will be issued at the Bureau of Information, without cost, to all Fellows who have paid their dues.

Fellows desiring to sit together in groups will please send their names to the local chairman of the Committee of Arrangements, Dr. A. P. Merrill, and the proper reservations will be made.

It is necessary that the local chairman of the committee know in advance the approximate number of those who will attend the dinner, therefore a reply post card has been sent out. It is earnestly requested that each Fellow fill out and mail the card as soon as possible.

WEDNESDAY AFTERNOON LATE.

After the dinner there will be further opportunity to play golf and tennis or to do sightseeing in the Berkshires.

MEETINGS OF THE COUNCIL.

The Annual Meeting, Tuesday, June 12, 1923, at the Maplewood Hotel, Pittsfield. Other stated meetings in John Ware Hall, Boston Medical Library, on the first Wednesdays of October and February.

CENSORS' MEETINGS.

The Censors for the several districts will meet for the examination of applicants for fellowship on the first Thursdays of May and November.

The Censors for the Suffolk District will examine applicants residing in that district and also applicants who are non-residents of Massachusetts.

Applicants for fellowship should apply to the Secretary of the District Society of the district in which they reside (have a legal residence), at least one week before the date of a given examination, taking with them their degrees in medicine.

TREASURER'S NOTICE.

Assessments should be paid to District Treasurers, or, in the case of non-residents, to the Treasurer.

Assessments were due January 1. For the convenience of members who have been unable to pay, assessments will be received for the Treasurer at the Annual Meeting.

SECRETARY'S NOTICE.

All communications as to membership, especially changes of residence and address, should be sent to the Secretary, who keeps a constantly corrected official list of the Fellows and their addresses. District Secretaries and Treasurers should true their lists by the official lists of transfers and changes published in the JOURNAL.—Walter L. Burrage, Secretary.

THE JOURNAL.

The BOSTON MEDICAL AND SURGICAL JOURNAL, the official weekly organ of the Society, will be sent only to Fellows who have paid their assessments, and to such Honorary and Retired members as may apply for it. Address communications to the Managing Editor of the JOURNAL, Dr. W. P. Bowers, 126 Massachusetts Avenue, Boston 17.

THE BOSTON
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Established in 1828

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ROBERT B. OSGOOD, M.D.
For two years JAMES S. STONE, M.D.
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The Journal does not hold itself responsible for statements made by any contributor.

Communications should be addressed to The Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.

THE CORNELL PAY CLINIC.

WE have our semi-free and free dispensary clinics, our consultation clinics (night and day), and our expensive private hospitals, more or less frequently studied—but as yet no one has been brave enough to follow the example of the Cornell Medical College in establishing a clinic for the examination and active treatment of patients in the so-called "lower middle financial class." It will be well to watch the progress of such an experiment—unique in America, perhaps in the world—with much interest, admitting as we do the present unsatisfactory state of medical economics.

Recently the Cornell University Medical College has published a report of the first year's experience of its Pay Clinic. From 1900 it had conducted a conventional dispensary in its Medical College building to furnish clinic material for teaching. Some two years ago it became interested in the problem of furnishing sound medical service at cost to persons of restricted incomes. With this in mind it reorganized the dispensary and set up an experimental pay clinic. It is, of course, a very open question as to whether with the advances and refinements of modern medicine sound medical service is not beyond the means of all but the well-to-do, unless there is an element of charity. The question, therefore, that was asked of this experiment was whether or not adequate medical service could be given at cost to persons of moderate means at rates which they could afford. At the end of the first year no definite answer can be given.

During the first year patients were charged $1 per visit, plus special fees based roughly on cost, for special service such as x-ray, laboratory work, drugs, etc. It was realized that the first visit would probably be at a financial loss, but that in subsequent visits, when routine treatments could be more expeditiously given, this loss would be made up. However, from the first, the acute cases have been very few and the problem cases have predominated. These are usually chronic and obscure, and take time and a considerable amount of special examination, and then may be asked to return every two or three months, or even less often. For instance, a first visit to the General Medical Department costs the patient $1, while it costs the Clinic about $1.68 in doctor's time alone, besides some 75 cents for admission (this can probably be reduced when the experimental period is over), and also the cost of the time of nurses and clinic executives.

Twenty-two thousand five hundred and thirty-six persons visited the Clinic 114,108 times in the first year, which means very little. Dispensaries have estimated the value of their work too long by what comes in the front door. According to such a standard all quacks would be vindicated. It is what has been accomplished for the outgoing patient that shows the quality of the work. The admission statistics show that about 70 per cent. of the patients have been under the care of private physicians for six months or more for the same condition that brings them to the Clinic. But what of this same 70 per cent. after they have been for six months or more to the Clinic? The very excuse for the existence of such a Clinic depends upon the answer to just this question. Unless a better quality of service is given by the Clinic than can be obtained in the private office at anything like the same rates, then no time should be lost in closing the doors. But the answer to such a question requires a definition of adequate medical service. This is the most pressing question that the Clinic now faces.

The average cost per visit to the patient was $1.57, and to the Clinic $2.03. The deficit has been met about equally by the College and the Dispensary Development Committee of the United Hospital Fund. All economies consistent with sound service and based on a fairly adequate cost system have been instituted. The patients, both new and old, and similar economic groups outside the Clinic have been interviewed. As a result of all this it has been decided to increase the fee.

In what does the Pay Clinic differ from the conventional free or semi-free dispensary? The Pay Clinic has both an upper and a lower level of economic exclusion. After much thought and conference, an economic classification was drawn up, based on the then existing cost of living in New York City. Eligibility is based on: (1) income, (2) size and responsibility of family; (3) usual cost of medical service required. It runs from $1100-$1800 for a single individual, up to $2200-$3300 for a family of five, with $200 added for each additional dependent. It is applied individually in each case, and will, of course, be modified as experience dictates. It is of some interest that of 19,615 applicants, 5038, or 25.8 per cent., were rejected. Of these, about 15 were rejected, because they were more suitable for a free dispensary, for every one that could afford private office rates. Also the large majority of those admitted were around the lower economic level. Does this mean that persons will go to a private doctor as long as they can beg, borrow or steal the money? Or does it mean that the word "clinic," even with the somewhat unfortunate prefix, "pay," connotes charity so strongly to the layman that he shies from it? Or that at First Avenue and Twenty-Seventh Street only a certain class can be attracted? Or what does it mean?

In a Pay Clinic all the medical staff necessary to the adequate service of patients are paid. This remuneration is, fortunately, not sufficiently large to be an incentive in itself to work in the Clinic. But it is a step towards the solution of the unsatisfactory medical economics. Again, all patients except new ones come by appointment, and the capacity of each department is limited. After this capacity is reached emergencies are, of course, admitted, but they are few in such a clinic, and other cases are given an appointment at a later date. This, more than any other one factor, has improved the quality of the medical work, since it removes from the doctor that hideous sense of pressure which is, perhaps, the greatest single cause of poor dispensary service. Although the appointment system is still far from perfect, it makes for satisfaction among the patients since it reduces the appalling amount of time that they must sit and wait.

A diagnostic clinic is open at the same time as the general clinic. To this patients are admitted only when referred by their private physician. After the diagnosis has been made a report is sent and the patient returned to the referring physician, unless treatment has been especially requested. The fee is $10 for as many visits to as many departments as may be necessary, plus limited urine and blood examinations. Other laboratory and x-ray work is charged for at the regular rates. It has been estimated on some 500 cases that the cost to the Clinic averages about $9.60, exclusive of clerical work, which is often considerable. During the first 19 months about 1300 physicians have referred some 2600 cases. The number of doctors referring more than one case is steadily increasing.

Recently a health clinic has been opened, for the examination and advice of supposedly well individuals. Health examinations are considered by some to be a medical fad and, as is sometimes observed in medical propaganda, there is undoubtedly some truth and some camouflage. Hence it behooves all to consider well lest ill-considered examinations produce a group of physically self-conscious individuals.

And so the report goes, but ends with the statement that "the clinic stands or falls on the rendering of a higher grade of medical service than can otherwise be secured by persons of moderate means, at a rate which they can afford."

POSTURE IN WOMEN'S WORK.

The effect on the physique and on the health of industrial workers of the monotonous and rapid repetition hour after hour and monthh after month of movements in themselves light and simple has recently begun to challenge the attention of the medical profession, says the U. S. Public Health Service. Especially has it done this since this work, so characteristic of modern industry, has been more and more monopolized, usually on a piece basis, by women whose deftness and swiftness have enabled them to take possession of occupations which did not require much muscular strength.

So far, although conclusive proof is lacking, the weight of opinion seems to be that serious injury may be caused by any work, the performance of which requires cramped, constrained, or awkward posture. Less general and less positive is the opinion as to the effect of the work on the nervous systems, especially in women.

Work that requires bent shoulders and dropping of the head compresses the chest and interferes with the breathing, and this alone leads to many ills. It also forces the ribs and all that they inclose down upon the abdomen and tends to displace its organs. Among other results, this pressure causes a "folding in" of the wall of the abdomen along the belt line and the partial stoppage of material moving through the intestines, and this leads to constipation, diarrhea, nervousness, abnormal fatigue, and headaches.

Work that requires a sideway "slouch" crowds the ribs between a low shoulder and a high hip on one side and expands them on the other side, interfering with the breathing and paving the way for tuberculosis. In girls and women this slouch also tends to displace other important organs.

Such results may be prevented or lessened by change of work; for instance, a change from work that requires stooping forward to work that requires reaching upward, or that requires

a sideways slouch, or that requires no particular attitude. Such a change naturally involves a loss in speed, which for a time may cause serious money loss to a piece worker; but, especially in young girls, it will help to prevent ill health and possibly deformity.

Proper chairs are also helpful. For instance, as sitting all day at one's work is probably nearly as bad as standing all day, a combination of chair and desk (or work bench) whose relative heights would permit one to work with equal ease whether standing or sitting may be advantageous. Many types of "proper" chairs have been designed; but, naturally, few or none of them seem to be fitted to all types of work. Certain factors seem, however, to be advisable in all chairs.

All chairs, for instance, that are too high to permit the occupant's feet to rest firmly on the floor, should be provided with a foot rest that would prevent the lower part of the legs from dangling and the upper part (thighs) from pressing against the edge of the chair; practically, this means that women should not be called upon to use chairs built for men. Rests for the back are also extremely helpful in lessening fatigue.

That the constant repetition of a movement does in time affect the nervous system is more than probable, but how importantly it affects it has not been established. Anderson, for instance, states that girl after girl in a cigarette-packing factory was found when off duty to be constantly repeating the motions she made while at work; and insists that such tendencies should be investigated.

The best preventives so far suggested seem to be the daily utilization of the forenoon and afternoon rest periods now in vogue in most factories either in complete rest or in exercising muscles not used in working time. When combined with periodic changes in occupation that call for changes in the muscles used, such utilization should give effective help in preventing serious troubles.

APPOINTMENT OF DR. HANS ZINSSER.

Dr. Hans Zinsser has been elected as Professor of Bacteriology in the Harvard Medical School.

Dr. Zinsser was born November 17, 1878, and Columbia conferred the following degrees upon him—A.B. 1899, A.M. and M.D. 1903.

He has published several monographs and other articles in collaboration with others and very many contributions to scientific literature treating of bacteriology and allied subjects. Among this number are 16 to the *Journal of Experimental Medicine*, several to the *Proceedings of the Society of Experimental Biology and Medicine*, the *Proceedings of the New York Pathological Society*, the *Journal of Laboratory and Clinical Medicine*, the *Journal of Immunology*, the *Journal of Medical Research*, and the *Journal of the American Medical Association*. About ten other publications contain contributions by Dr. Zinsser.

The Harvard Medical School is to be congratulated in having Dr. Zinsser as a member of the faculty.

A FEATURE OF MEDICAL PRACTICE.

In an editorial discussing the problems of rural practice in England and this country, the *Journal of the American Medical Association* reports that New Hampshire has provided, by legislative enactment, the taxing of citizens of any town to support a resident physician.

This brings up several important questions:

First: Will this method pave the way for state medicine? England provides for added payment for rural service according to mileage and for other reasons under the national insurance acts. The conditions in England have been reported as unsatisfactory from the physician's point of view.

Services paid for by taxation imply control by some official. Would the average doctor feel happy and contented under these conditions?

Second: If a town provides for medical service by a *resident* physician, how will the taxpayers feel when emergency service may not be available?

It is quite within the range of possibilities that the doctor may be attending an obstetric case several miles away in a non-contributing town and a child may need prompt attention or an accident may have occurred.

It is probable that a well-educated doctor would be bored at times by the inactivity of a small country practice and would feel that unless he could have a larger experience his mind would stagnate. Might not his troubles be much more than those of a clergyman ministering to a small parish, with the irritations sometimes developing among people of jealous dispositions? These are only suggestions of a few possible difficulties. Time and experience might bring forward other perplexities.

It is quite true that a commanding mind and a diplomatic temperament might meet the issues successfully, but men possessed of these qualities would very soon seek larger fields, with explanations sometimes offered by a departing clergyman that he had been called to a sphere of greater usefulness.

A country practice really calls for a big-hearted, broad-minded, and self-reliant person. Such men have been successful in small places, if endowed with physical strength, and have lent glory to medicine, but today the stimulating effect of congenial associations and honorable competition are tending to draw well-educated men to the centers of population.

The present trend of medical education indicates that there will be comparatively few poorly educated doctors in the future. New Hampshire does not recognize graduates of the Middlesex College of Medicine or the College of Physicians and Surgeons of Massachusetts. Will the rural communities be satisfied with the chiropractors now allowed to practice in this State?

We may, now and then, see men who are missionaries in medicine, but they are the exceptions. These exceptional men will never, it is feared, cover the fields of rural practice. The problem has thus far been met with only a partial solution in the plan proposed. If New Hampshire would make an adequate grant to Dartmouth in order to rehabilitate its Medical Department more would be accomplished in fitting doctors to meet the needs of that State.

ANNUAL REPORT OF THE DIVISION OF THE BLIND.

THE sixteenth annual report of this Department of Massachusetts has been distributed.

This report sets forth that only temporary aid can be given to these unfortunates, and that the greatest possible effort is being made to promote the industrial efficiency of the blind. A careful investigation is being conducted of the status and capacity of every blind person in the Commonwealth, in order to bring about an amelioration of the condition of those who are or may be deprived of sight.

The coöperation of Boards of Health and other state bodies is solicited in the effort to stamp out blindness through legislation and education. There are 3888 blind citizens in Massachusetts. This Department has been in touch with 208 blind or partly sighted people during the year, and on the last day of November 93 of these were employed in gainful occupations; 18 had returned to Perkins Institution.

In referring to prevention, the report states as follows:

"The law requiring the immediate reporting of cases of inflamed, swollen or red eyes in babies within two weeks after birth is practically stamping out blindness from ophthalmia neonatorum in Massachusetts. Of those pupils admitted to Perkins Institution and Massachusetts School for the Blind during the year 1920-21 there were 10 children whose blindness was caused by ophthalmia neonatorum, but only one of the number was from this State. In 1921-22 there were eight admitted whose blindness was due to this cause, and again only one from Massachusetts. Considering that two-thirds of the pupils are Massachusetts children we can feel that our law is truly effectual.

"Laws regarding tuberculosis, venereal diseases and prohibition should soon reduce the number of children whose vision is impaired by corneal opacities."

The report presents many interesting facts relating to the work of the division and efforts made to aid the blind.

AN ATTACK ON HOSPITALS.

A BILL was introduced in the Legislature of Michigan which provided that no hospital in that State should be exempt from taxation unless all applying and paying patients should be received up to the capacity of the hospital, and, further, unless the hospital should be open to the service of any physician selected by the patient.

A further provision that exempted hospitals should render charity service for at least six per cent. of its patients was incorporated in the bill.

The Legislature very properly refused to pass the bill.

Miscellany.

NEW ENGLAND PEDIATRIC SOCIETY.

REPORT OF THE MEETING HELD ON APRIL 13 AT THE BOSTON MEDICAL LIBRARY.

DR. C. G. MIXTER presented the first paper, the subject of which was

CONGENITAL OBLITERATION OF THE BILE DUCTS—ANALYSIS OF TEN CASES—RECOVERY IN AN INFANT FOLLOWING CHOLECYSTGASTROSTOMY.

(Abstract.)

Obliteration or occlusion of the bile ducts is not of frequent occurrence in infancy, and yet it is encountered sufficiently often for the pediatrician to be suspicious of this condition in any case of protracted jaundice of the newborn. Ten cases proved by operation or at autopsy have been admitted to the children's and infants' hospitals in the last 10 years. Including this series, approximately 131 cases have been reported up to the present time.

The fibrosis may occur in the hepatic radicles within the liver or it may be at any point along the extrahepatic biliary system, or finally there may be complete obliteration of all the ducts, both intra- and extrahepatic. Cyst formation or diverticulum of the common duct may occur. This condition has been present in all previously reported operative recoveries. Accompanying the occlusion of the ducts, there is always a greater or less degree of cirrhosis of the biliary type.

Four causes have been suggested to explain the etiology: (1) Syphilis; (2) inflammation

within the ducts; (3) fetal peritonitis; (4) developmental anomaly. The latter is the most probable cause. The symptoms are jaundice, vomiting, absence of bile in the stools, the presence of bile in the urine, and hemorrhages. Where the atresia is complete, death occurs from hemorrhage or convulsions in from two to three weeks to as long as four to five months.

The atresia may be incomplete, as evidenced by the late appearance of jaundice, several years after birth in all the cases of operative recovery reported, and in all of which cystic dilatations of the common duct were present.

Congenital occlusion of the bile ducts is invariably fatal unless a channel for the bile into the gastro-intestinal tract can be found by surgical means. In the 108 cases collected by Holmes in 1916 the occlusion in 16 per cent. was such as to offer the hope of cure by surgical intervention. The operability in this series of 10 cases was 30 per cent. In seven the condition was hopeless—two showing intrahepatic obliteration and five extrahepatic atresia involving the upper bile passages. Of the three operable cases, one presented a cystic dilatation of the common duct and in two the common duct was occluded well below the entrance of the cystic duct. Recovery following operation is reported in one of the latter types.

History.—Girl baby, two months old, weight 6½ pounds. Jaundice, vomiting, acholic stools, bile in urine and loss of weight.

Examination.—Emaciation, marked icterus, abdomen level and tense, liver and spleen enlarged, no tumor masses.

Operation.—Gall-bladder greatly distended, tense and thin walled. Cystic and common ducts dilated—common duct ended blindly one inch below insertion of cystic duct. Cholecystgastrostomy.

Recovery.—Bile appeared in 48 hours in the stools. Normal development. Present weight at 17 months, 27½ pounds. No digestive disturbances.

The technic of anastomosis between a distended gall-bladder or common duct cyst and the anterior wall of the stomach is less difficult than to the duodenum. The introduction of the biliary stream into the gastro-intestinal tract above the pylorus in infancy is followed by as satisfactory a development as where it enters below the pylorus.

Conclusions.—Congenital occlusion of the bile ducts is a developmental anomaly invariably fatal if untreated.

Approximately 20 per cent. of the cases present a condition in which surgical intervention can establish an outlet for the bile into the gastro-intestinal tract.

Divergence of the biliary stream into the stomach in infancy is compatible with the normal development of the child.

Anastomosis of the gall-bladder or common duct cyst to the stomach is technically simpler than to the duodenum and is the operation of choice.

Biliary cirrhosis is always present to a greater or less degree in congenital obliteration of the bile ducts.

Therefore, exploratory operation should be advised at the earliest moment that the diagnosis can be established.

DISCUSSION.

DR. JAMES S. STONE: I think Dr. Mixter's work in this case has been remarkable. Unfortunately in many cases there is no duct at all. In these there is absolutely no possibility for relief from surgical intervention. Without operation no one can tell whether relief is possible or not. It is difficult to imagine a more unpromising case than the one which Dr. Mixter has reported and in which he has obtained such a brilliant result. It should encourage us to operate on all cases in the hope that it may be possible to cure some.

DR. BENJAMIN WHITE, director of the Massachusetts Antitoxin Laboratory, presented a paper on

THE MANUFACTURE OF DIPHTHERIA ANTITOXIN AND OTHER SERUMS AND VACCINES.

(Abstract.)

The advantages accruing from the state manufacture of biologic products consist in the greater success which attends any effort for the prevention of communicable diseases when biologic products are distributed free of charge. The State of Massachusetts produces its biologic products at a sum much less than that which would be required to purchase these products from commercial manufacturers, and far less than the cost to the people of the State if they were obliged to purchase these products at retail. By controlling the distribution, it is possible for a State to supply physicians with freshly prepared products and, therefore, products in a high state of potency. Another great advantage is the close coöperation at present between the medical profession and the State Department of Health.

At present the antimeningococcic serum as produced is potent against meningococci of the four agglutination groups and the six tropin groups and, therefore, has specific antibodies for practically all the types of meningococci encountered in practice. Cultures should always be made from every case of meningococcus meningitis, and the cultivation of the organism continued so that in the event the patient shows no improvement under the serum, the culture may be tested against various lots of serum. In this way, frequently, a more potent serum for the particular strain may be found, or else, if no

serum is found which is specific for the strain, the strain is very much desired by manufacturing laboratories to be added to the immunizing strains.

In the case of smallpox vaccine virus, due to the enforcement of government regulations, the method of preparation of this product has become standardized and it now represents a highly refined product. If the directions accompanying this product are followed a minimum scar with a maximum of protection will be afforded. It should be borne in mind that vaccine virus is a very labile substance and, therefore, no medicated alcohol should be used in cleansing the arm, and the virus should be used as soon after release from the laboratory as possible.

Diphtheria antitoxin as now distributed consists of the concentrated globulin in the 3000, 5000 and 10,000-unit packages and of unconcentrated serum in the 1000 and sometimes 3000-unit packages. The table of dosage contained in the leaflet of directions was explained and agrees with the recommendations of Schick that the doses should be 50 units per kilo of body weight for an immunizing dose, 100 units per kilo for mild and moderate cases, and a maximum of 500 per kilo in severe cases. The serum is never to be injected subcutaneously, but should be given intramuscularly in the mild and moderate cases and intravenously in the severer cases. A single injection of the dose indicated is sufficient.

In regard to toxin for the Schick test, it was explained that the preparation and testing of these materials have been standardized by the Federal Government, and, therefore, the only variations following the administration of this material will be in the pseudo-reactions. The weaker toxins give a higher percentage of pseudo-reactions than the strong toxins. The pseudo and combined reactions have been studied and it has been found that they are due to a hypersensitiveness on the part of the individual to the protein of the diphtheria bacillus.

The preparation of diphtheria toxin-antitoxin mixture was briefly explained and the possible immunizing effects of the 3 L+ dose and the 1/10th L+ dose mixtures were described. Following the conservative policy of the State Department of Health either a 3 L+ dose or a 1 L+ dose will be regularly distributed and the 1/10th L+ dose will be sent out only upon special request. The experience with the stronger mixtures (the 3 L+ dose mixture) has been so satisfactory in the State, and so few reactions have been reported, that it seems undesirable at this time to change to the weaker mixture recommended by Park.

DR. W. T. PORTER discussed:

1. The advantage of reasonably tall persons over those defective in height.

2. The greater success in life of persons somewhat larger physically than the average.

3. The fact that Boston school children make about two-thirds of their annual growth in weight in the months from June to December, and the bearing of this upon preventive medicine.

4. The relation of the growth of the individual child to the yearly increase of the statistical average.

DISCUSSION.

DR. W. R. P. EMERSON: I appreciate very thoroughly Dr. Porter's careful and exhaustive work on the Boston school data. However, we are finding a very large proportion of these school children are not normal children.

The Children's Bureau has recently published a result of the examination of the physical condition of over 3000 children in the primary grades in Garey and reports an average of over four defects per child and less than 20 per cent. of the whole number whose physical condition could be called excellent. We have reported similar results on groups of children in and around Boston. Under these circumstances, how is it possible to secure correct tables from incorrect data, or to draw any conclusion on the normal growth of children from data, no matter how large in amount, derived from children about whose physical condition we know little or nothing? The term "seasonal growth" seems to me to be misleading. The fact that children grow faster the last six months of the year than they do the first six months is easily explained, because during the first six months growth is delayed by the stress of school life, by respiratory effects, and especially by the contagious diseases. Most sickness occurs during the months of March and April, and even so slight an affection as a cold will cause loss of weight, and in cases of tonsillitis children may lose six or seven pounds. Unfortunately, the term "seasonal growth" leads parents to use this as an excuse for not exercising proper care in seeing that their children are growing steadily.

BOSTON TUBERCULOSIS ASSOCIATION.

MONTHLY BULLETIN NO. 1.

THIS is No. 1 of a series of Monthly Bulletins to be sent to the medical profession of Boston on the subject of the diagnosis, treatment, and other matters connected with the tuberculosis problem. Other subjects to be taken up will include:

2. Facilities for the Hospital Treatment of Consumptives in the City of Boston.

3. Dispensaries for the Diagnosis and Treatment of Tuberculosis in the City of Boston.

4. Diagnosis and Treatment of Tuberculosis in Childhood.

5. Nontuberculous Lung Diseases Simulating Tuberculosis.
6. Sunlight Treatment and Its Uses.
7. Nonpulmonary Tuberculosis and Its Treatment.
8. General Principles on the Home Treatment of Tuberculosis.
9. Tuberculosis in Industry.
10. Outline of the Campaign Against Tuberculosis in the City of Boston.
11. Mycotic Infections of the Lungs Simulating Tuberculosis.
12. Chronic Bronchitis and Pulmonary Infections Other Than Tuberculosis.
13. Prodromal Symptoms of Tuberculosis.

Signs and Symptoms of Pulmonary Tuberculosis.

John B. Hawes, 2nd, M.D.

The diagnosis of tuberculosis in its incipient stages still remains one of the most difficult and yet one of the most important problems in medicine. Although tremendous advances have been made during the past decade in this respect, there is still room for much improvement. Dr. Lawrason Brown of Saranac Lake has rendered a distinct service in formulating his "Five Points in the Diagnosis of Pulmonary Tuberculosis." According to Dr. Brown, with one exception, at least two of these points are necessary before a positive diagnosis can be made. These points are as follows:

1. Tubercle baeilli in the sputum.
2. Persistent râles at one apex.
3. X-ray showing involvement of the lung over the same area.
4. Hemorrhage of at least a teaspoonful of clear blood.
5. Pleurisy with effusion.

1. The first point speaks for itself. If the sputum is positive the diagnosis, at least, is clear enough, although the degree of involvement and the activity of the disease still remains in doubt.

2. *Persistent râles at one apex is important.*—The patient in every instance should be instructed how to cough, and to take a breath immediately after coughing. Muscle sounds and motor joint crackles should be considered as possible sources of error and should be ruled out in every instance. The exact quality of any râle is not so important as the fact that they persist and that they are located at one or both apices and persist after cough. French observers have called our attention to cases of persistent nose and throat infections associated with moisture in the shape of râles at an apex. Such cases, although rare, undoubtedly do exist and furnish an occasional source of error.

3. *X-ray evidence of lung involvement in the area where the râles are found* needs little or no comment except that the x-ray should be interpreted by one qualified to do this.

4. *Hemorrhage of at least a teaspoonful of clear blood.*—The presence of blood in the sputum or the spitting up of blood, no matter how small the amounts, calls for careful investigation as to its source, but it does not necessarily mean tuberculosis. The spitting up of a teaspoonful of clear blood, however, should be considered as a sign of pulmonary tuberculosis until the contrary is proved.

5. *Pleurisy with effusion.*—Dr. David Stewart of Manitoba coined the wise remark that before influenza, pleurisy with effusion meant tuberculosis, but now pleurisy with effusion was pleurisy with effusion. This remark should be borne in mind, and yet of still greater importance is the need of remembering that although since influenza, cases of pleurisy with effusion of non-tuberculous origin have been far more frequent than ever before, the fact still remains that an idiopathic pleurisy with effusion should be looked upon as a manifestation of tuberculosis.

It is well for every physician to know these five points which Dr. Brown has placed before us and to demand that two of them, with the exception of the first one, which by itself is sufficient, be present before the diagnosis of tuberculosis is made.

Constitutional signs and symptoms: temperature and pulse.—The temperature and pulse taken at a doctor's office are of comparatively little value. At every instance before deciding that a given patient is running a fever or a rapid pulse, there should be observations taken quietly at home at least four times daily over a period of four or five days. If the patient, after this is done, is found to run a temperature which exceeds 99 at night the greater part of the time and a pulse running 10 or 15 points above what is normal, these two signs should be regarded as important evidence in the diagnosis of tuberculosis. While we know the normal temperature, the normal pulse for a given individual is not so easily determined. As a general rule, however, we look upon a normal pulse for a man as one not exceeding 80 and that for a woman five or ten points higher.

Loss of weight and strength.—Loss of strength is a vague and intangible subject at the best. Some patients, if questioned carefully and earnestly on this subject, will be able to give fairly definite information as to whether or not they are more tired out after the day's work is done than they used to be and as to whether or not exertion of any kind has become an unusual effort. Loss of weight is a more definite one. The important points to find out in this are: first, the patient's normal weight; second, over how long a period the loss had occurred; third, as to whether or not the loss was an intentional one, brought about particularly in women patients intentionally in order to reduce.

Miscellaneous Symptoms.—Cough may or may not be present. There is no characteristic kind

of cough. The same may be said concerning sputum. Each should be inquired after carefully. Sweats and other vaso-motor disturbances are rarely early signs. Digestive disturbances of all kinds are extremely common. A large percentage of patients, in fact, up to 30-40 per cent. consult their doctor first on account of indigestion and dyspepsia. While with one exception the points which have been considered, though taken by themselves do not necessarily mean that the patient has tuberculosis, if two or more are present, tuberculosis should be gravely suspected.

STATES ADVANCE IN SAFEGUARDING HEALTH OF WORKING CHILDREN.

TWENTY-TWO states now require the physical examination of every child applying for an employment certificate, according to the newly revised edition of a bulletin on "Physical Standards for Working Children," issued by the U. S. Department of Labor through the Children's Bureau. The bulletin contains the recommendations of a committee of physicians who were appointed by the Bureau to prepare a standard form for use in examination of children seeking to enter employment.

Since the publication of the first edition of the bulletin, two years ago, a considerable number of changes have been made in the various state laws with reference to such examinations, and the summary of legal provisions which it contains has now been brought up to date. One State, Virginia, is said to have advanced in this respect to a stage beyond that of the other states, in that it now requires the examination of every working child at regular intervals during the years when he is especially susceptible to the strains of industry. It should thus be possible to determine whether the work at which he is engaged is injuring his health or interfering with his normal development. In certain other states a child must be reëxamined when he goes from one employer to another, but since he may remain with his first employer until he passes the certificate age, the bulletin points out that this is not so adequate a provision as the new Virginia law.

In addition to the 22 states requiring a physical examination for every child before an employment certificate is first granted, eight others and the District of Columbia allow the certificate-issuing officer to require an examination when he is in doubt as to the child's physical fitness, but many officers, it is said, do not realize the importance of this phase of their work. In 18 states there is still no legal provision of any kind for examination, even when a child first enters employment.—Children's Bureau, U. S. Department of Labor.

RÉSUMÉ OF COMMUNICABLE DISEASES.

APRIL, 1923.

GENERAL PREVALENCE.

Of the more prevalent communicable diseases, measles alone shows an increase over last month in the number of cases reported. Scarlet fever and whooping cough are in excess of the average for this month. The more common diseases were reported as follows:

	April 1923	March 1923	April 1922
Chicken-pox	565	574	415
Diphtheria	609	700	576
Encephalitis lethargica	23	54	46
Influenza	79	486	156
Measles	3,865	3,611	3,603
Pneumonia, lobar	463	792	527
Scarlet fever	1,419	1,571	736
Tuberculosis, pulmonary	515	468	512
Typhoid fever	41	42	28
Whooping cough	1,481	1,884	335
Gonorrhea	354	377	373
Syphilis	138	165	181

RARE DISEASES.

Actinomycosis was reported from Boston, 1.

Anterior poliomyelitis was reported from Boston, 1; New Bedford, 1; Somerville, 1; Walpole, 1; Waltham, 1; Worcester, 1; total, 6.

Dog-bite requiring anti-rabic treatment was reported from Boston, 2; Cambridge, 1; Lawrence, 1; Lowell, 5; Medford, 1; Melrose, 1; Methuen, 2; Quincy, 1; South Hadley, 2; Winthrop, 1; total, 17.

Epidemic cerebrospinal meningitis was reported from Beverly, 1; Boston, 1; Braintree, 1; Cambridge, 1; Fall River, 1; Haverhill, 1; Lowell, 1; Lynn, 1; New Bedford, 2; Southbridge, 1; total, 11.

Malaria was reported from Boston, 1; Cambridge, 1; Lowell, 1; Middleboro, 2; total, 5.

Septic sore throat was reported from Boston, 3; Cambridge, 1; Lowell, 1; Lynn, 1; total, 6.

Tetanus was reported from Boston, 1.

AMERICAN RELIEF ADMINISTRATION.

Samara, Russia, April—"For a sanitarian the work in Russia at this moment can be well compared to that of a woodsman in a primeval forest. The only evidences of the toil of human hands are the results of his own labor."

For 16 months Dr. F. H. Foucar, New York physician of the American Relief Administration medical department, has been superintending this pioneer labor in the district of Samara. Lent by the American Army to the A. R. A. for its Russian work, he is now recalled to duty. In one of his last reports to Dr. Beeuwkes, chief of the medical department, he thus sums up his sentiments on the situation.

To an American doctor with the highest sanitary standards in the world Samara may still seem a wilderness, despite the American effort. To Russians and even to American non-medical men who knew Samara before Dr. Foucar's advent, the forest he found there has lost much of its primeval aspect. The underbrush has been cut, letting the light shine through. It will take patience and perseveranee to keep the clearings open, but Dr. Foucar is leaving inspiration as well as concrete work behind.

To give in detail the task Dr. Foucar has accomplished would require the space of at least a small book. Fifty-two thousand people bathed during the 26 working days of March in the fight against filth-borne diseases; 5000 adult heads clipped of verminous hair; 6000 bundles of clothing sterilized in the same time; 6000 people treated at the bathing houses for some slight disease; 970 patients passed through an A. R. A. ambulatory—this is the direct routine work of the department Dr. Foucar supervises, a routine which he has taken measures to make permanent when he leaves. His indirect work was still greater. One hundred and sixty-six separate institutions, including hospitals, dispensaries, children's homes and local ambulatories, supplied with stocks by the A. R. A. medical department for March.

Sixty-five thousand hospital patients and 191,131 ambulatory patients were treated during the month of March.

Malaria was one of the scourges of Samara. In August of last year 54,000 cases of it were officially registered. But Dr. Foucar had begun issuing his quinine. The number of cases dropped in September to 18,000. And for this fall, when the incidence of the disease should be great again under normal Russian conditions, there will be 32,000 ounces of quinine available to combat it. This supply will be handled by a sanitary force of local workers whom Dr. Foucar has already trained. This force is divided into seven companies, each headed by a doctor. The doctor's duties are as follows:

(a) To see the issue and use of quinine is properly guarded.

(b) To instruct local doctors in the most intelligent treatment of malaria and the technic of injection of the quinine and other salts intended for intravenous administration.

(c) To issue instructions relative to the most economical issue of the quinine to be set aside for prophylactic purposes.

(d) To gather statistics relative to the incidence of malaria.

(e) To render reports relative to the most necessary sanitary measure needed to control the breeding of mosquitoes; to carry out these measures it is intended to use some of the corn rations available for the adult population.

The same system has been employed to fight trachoma. This highly cortagious and destructive epidemic is common among the Mongolian races inhabiting a particular area of Samara Gubernia. In some of their villages its victims number 80 per cent. of the population. So dirty and primitive are their living conditions that local doctors had refused to live among them. The judicious distribution of A. R. A. food and clothing packages, however, secured a good sanitary squad for Dr. Foucar. They are divided into four companies, who take charge each of a certain district, distributing there A. R. A. medical stocks, medical treatment and sound advice.

By the end of May, 1923, this distribution of A. R. A. stocks in the district of Samara will officially cease, the supplies donated by the American Red Cross and the U. S. Congress having been exhausted. But Dr. Foucar has taken measures to forestall any disaster which might result from this inevitable contingency. Before the war Samara had one of the most famous laboratories in Europe, known by the name of Roux. One of the first tasks undertaken by the A. R. A. was to restore this to working order. Necessary supplies and instruments were issued. Its personnel received food packages regularly. Now it is functioning regularly, turning out vaccines not only for Samara but other parts of Russia and preparing and administering Pasteur treatments both to European Russia and Siberia.

"Our main satisfaction," says Dr. Foucar, concluding the report of work done, "is that so many people have already benefited by our efforts. Our hope is that in the very near future the local government will be able itself to support permanently such a structure as we helped to create."

A FEW FACTS ABOUT DIPHTHERIA.

THE children of the well-to-do are more susceptible to diphtheria than the children of the poorer classes, according to the best-known medical authorities. This is because the segregation and relative isolation of the well-to-do children renders them more liable to infection in case of exposure than the poorer children. And American children have the disease far more frequently than the children of Italian or foreign extraction, according to Dr. Abraham Zingher, assistant director of the Research Laboratory of the Department of Health of New York City, writing in "Mother and Child," the official organ of the American Child Health Association.

"It is an extraordinary fact that, by application of the Schick test for diphtheria there were found to be 60 or 75 per cent. of susceptible children in the schools located in the better sections of the city, compared with 15 to 25 per cent. in the schools located in the poorer sections," says Dr. Zingher. "The racial and

hereditary family factors also seem to have some influence on these results. Some of the highest percentages of positive Schick tests have been found in families of native American stock. Fairly higher percentages have also been found among the colored children. On the other hand, children of Italian extraction have shown the smallest proportion of susceptible individuals."

Great forward strides have been made since 1895 in the treatment of diphtheria, according to Dr. Zingher. By means of the antitoxin introduced in that year the mortality from this disease has been reduced from 50 or 60 per cent. down to 10 per cent., but there has been a startling increase in the number of cases reported during the past two years. In 1920 there were 149,600 cases of diphtheria in the United States, and in 1921 there were 209,000 cases.

THE ROCKEFELLER FOUNDATION.

This Foundation has published and distributed a circular of information setting forth the major features of its functions.

It was chartered by special act of the New York State Legislature on May 4, 1913, just ten years ago. The following statement of contributions and programs during this first decade is made by Edwin R. Embree, the Secretary.

While the chartered purpose is broadly stated as "the well-being of mankind throughout the world," the work of the Foundation has become chiefly centered upon public health and medical education.

The expenditures during the first decade, 1913 through 1922, have amounted to seventy-six and three-quarters millions ($76,757,040), roughly divided as follows:

Public health	$18,188,838
Medical education	24,716,859
War relief	22,298,541
All other philanthropic work	10,445,628
Administration	1,107,174

In carrying on its various activities the Foundation has expended all of its income from year to year, and in addition seventeen and a half millions ($17,500,000) of its general fund or principal. A further sum of fifteen and a half millions ($15,500,000), payable in future years, has been pledged to various medical schools and public health projects.

Contributions outside the field of public health and medical education were made, for the most part, during the war and in the earlier years of the Foundation's work before its policies and program had become clearly defined. The chief item in this group is the sum of five and two-thirds millions ($5,678,599) given to various charities designated by the Founder before he relinquished, on July 19, 1917, the right he had originally reserved personally to direct the use of a part of the income. A million dollars was given to Herbert Hoover's child-feeding plan in Europe, and another to make possible the Palisades Interstate Park.

In the development of the Foundation's program there has been increasing concentration upon medical education and public health.

The International Health Board, established as a department of the Foundation in 1913, has sought to promote public health throughout the world by demonstrating the methods and costs of controlling certain diseases, notably hookworm disease, malaria, and yellow fever; by fostering the growth of governmental health agencies; and by encouraging the formation of schools of hygiene. In carrying out this program the Board has co-operated with twenty-seven American states and fifty foreign governments. Its annual expenditures have increased from $133,237 in 1914 to $1,842,249 in 1922.

In medical education a special feature has been the work of the China Medical Board, in building, equipping, and maintaining a modern medical center in Peking. The Board has made appropriations to other medical schools and to thirty-two hospitals, as well as to the fostering of science education in China.

Substantial contributions have been made in recent years to centers of medical teaching in London and Brussels. The Foundation has also co-operated in the development of medical education in North and South America, Western and Central Europe, the Philippines, Hong Kong, and Bangkok.

The expenditures of the Rockefeller Foundation during its first ten years are shown in detail in the following table:

SUMMARY OF EXPENDITURES DURING THE PERIOD MAY 22, 1913, TO DECEMBER 31, 1922.

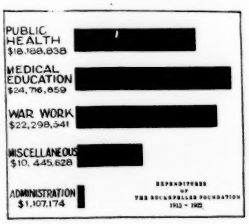
Public Health.	
International Health Board:	
Regular Program in Control of Hookworm, Malaria, and Yellow Fever, and in County Health and Laboratory Service	$6,378,672
Tuberculosis in France	2,119,945
Fellowships and Public Health Education	348,952
Schools of Public Health:	
Johns Hopkins University	7,096,088
Harvard University	1,250,534
Hospital, Dispensary, and Nursing Studies and Demonstrations	313,502
Mental Hygiene	390,227
Social Hygiene	41,353
Infantile Paralysis including Gift to New York City Department of Health	154,565
Other Public Health Education and Demonstrations	95,000
Total, Public Health	$18,188,838

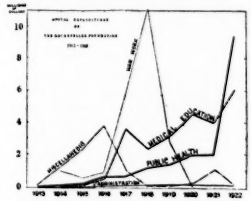
Medical Education.	
China Medical Board:	
Regular Program of Aid to Medical and Pre-Medical Schools and to Hospitals	$2,107,450
Fellowships and Scholarships	265,141
Peking Union Medical College, Land, Buildings, and Equipment	8,513,882
Operation	2,059,094
Shanghai Medical School, Land and Expenses	346,937
Belgium——Fondation Reine Elisabeth	80,972
Canada—Alberta, Dalhousie, Manitoba, McGill, and Toronto Universities, and Universitŝ de Montréal	2,236,387
England—London Medical Center	4,690,215
France—Pasteur Institute	55,000
Central Europe—Laboratory Equipment and Scientific Journals	125,394
Hong Kong—University of Hong Kong	203,750
United States:	
University of Chicago[1]	190,281
Rockefeller Institute for Medical Research	3,422,043
Studies in Medical Education, Visiting Commissions and Exchange Professors	178,941
Fellowships for Medical Scientists	51,372
Total, Medical Education	$24,716,859
War Work.	
Y. M. C. A., Knights of Columbus, Jewish Welfare Board, Y. W. C. A., and Other Camp and Community Welfare	$10,956,298
Medical Research and Relief	678,084
Humanitarian Aid Including American and International Red Cross	10,664,159
Total, War Work	$22,298,541
Biology, Physics, and Chemistry	263,906
Founder's Designations[2]	
Gifts made during the period May 22, 1913, to July 19, 1917, upon the designation of Mr. Rockefeller	$5,678,599
Miscellaneous.	
Palisades Interstate Park	$1,000,000
American Relief Administration Feeding of European Children	1,000,000
American Red Cross—Other Than War Work	110,000
American Academy in Rome	90,000
Bird Refuge Presented to the State of Louisiana	256,133
Bureau of Municipal Research 1914-1919	173,000
Scientific Studies in Governmental Problems 1914-1918	127,500
Colorado State Committee on Unemployment, 1915	99,985
Mayor's Committee on Unemployment in New York City, 1915	10,000
Studies in Industrial Relations, 1914-1918	56,159
Committee of Reference and Counsel of the Annual Foreign Missions Conference of North America	423,880
New York Association for Improving the Condition of the Poor	295,000
Wellesley College—Buildings,[3] 1915-1916	750,000
Other gifts, in no case over $10,000, not included in above classifications	56,000
Office Furniture and Books for Library	55,466
Total, Miscellaneous	$4,503,123
Administration	1,107,174
Grand Total	$76,757,040

[1] Assistance to medical education as well as to other education in the United States is a part of the work of the General Education Board, which is a separate corporation and has made contributions to many American medical schools. The Foundation has, at the initiative of that Board, joined with it in pledges to medical schools of the universities of Chicago, Columbia and Iowa. To December 31, 1922, payments have been made only on the pledge to Chicago.

[2] In connection with an early gift the founder reserved the right to designate charities, within the chartered purpose of the Foundation, to which a part of the income should go. This right was formally relinquished in 1917, since which time no payments on account of such designation have been made.

Below are graphs of Foundation expenditures, (1) in total, and (2) by years.





Although it is quite often that we see objections expressed of the purpose and methods underlying the acquisition of great wealth, it is evident that money may be accumulated by business acumen and made to accomplish great good for humanity which otherwise would be so distributed as to be without influence in creating constructive agencies for the good of the world. It would be quite impossible to interest people at large in promoting healing and preventive medicine on a scale comparable with that shown by this Foundation. The only other way would be by governments through taxation, and the expenditure of large sums of money through government agencies would be quite apt to be less efficiently and much more extravagantly used.

To be sure, the accumulation of money by industry is a form of taxation, but business ability

[3] The gift to Wellesley, as most of the others included in the classification "miscellaneous," was made in the early years of the Foundation before the present policy of concentrating upon definite fields of activity had been adopted. Gifts to educational institutions within the United States are a part of the program of the General Education Board, which is a separate corporation; they are not now regarded as within the scope of the Rockefeller Foundation.

NOTE:—In addition to figures reported above, the Foundation has paid out to specially designated charities income amounting to $4,850 annually on funds held for the time being in trust for Mr. and Mrs. Rockefeller. The residuary estate of Mrs. Rockefeller received by the Foundation, amounting to $487,689, has been paid out in full in appropriations to the General Education Board, the Young Men's Christian Association, and the Fifth Avenue Baptist Church of New York City.

may make that taxation less burdensome and at the same time return a larger proportion to the public.

Without corporate or individual wealth controlled and disbursed by minds awakened to human needs, the world would have lost a great deal.

The example of the creators of foundations should turn the attention of all possessors of wealth to the obligation imposed on those who have been able to accumulate more than is reasonable for personal needs.

THE ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

Dr. Merrill has notified Dr. Burrage, the secretary, that he has received many enthusiastic replies to the request for a statement of probable personal attendance at the Pittsfield meeting.

All who have not sent in the reply postal cards should do so forthwith.

Encourage the committee by sending an affirmative reply.

THE PLACE OF THE ANNUAL MEETING.

PITTSFIELD, the county seat of Berkshire County, is situated at the very western part of the State in the midst of the Berkshire Hills. Its population numbers about 45,000. It is the center of an industrial and farming region. The industries of the county comprise a branch of the General Electric Company, woolen mills, cotton mills, paper mills, including the mill in which the government paper is made, electric light plants, mines and quarries. Scattered through the county are many splendid country places and numerous beautiful lakes and streams.

In Pittsfield there are four hospitals: The House of Mercy, the Boylan Memorial, St. Luke's, and Hillcrest; the Tuberculosis Hospital and the Crippled Children's Camp. There are the Visiting Nurse Association, Day Nursery, Y. M. C. A., Business Women's and Girls' Clubs, the Public Library, and Museum of Natural History and Art. In former days the Berkshire Medical College flourished here for many years, and here Dr. Oliver Wendell Holmes had a summer place and Longfellow wrote "The Old Clock on the Stairs."

To the north lies Williamstown, the seat of Williams College, with its beautiful buildings and wonderful hills; North Adams and Adams, known for their cotton mills; Cheshire and Lanesboro, the home of Josh Billings. To the east are Dalton, with its paper mills, and Hinsdale. To the south lies Lenox, famous as a summer resort, with its wonderful country places; Stockbridge, with its beautiful village street and its old Indian burying ground; Housatonic, Lee, Great Barrington, and Sheffield—all lying in the midst of the hills. To the west is Richmond, and Lebanon, with its Shaker Settlement, just over the boundary in New York State.

The Maplewood Hotel, the headquarters of the Massachusetts Medical Society meetings, is a landmark. Its land was first used for barracks in the War of 1812, then for the prisoners of that war. It later became a boys' school, then a young ladies' seminary, and for many years a hotel. The building used as an assembly hall was formerly a church, designed by the famous architect, Bulfinch.

In Berkshire County there are good roads, beautiful views, excellent hotels, country clubs, golf, tennis, bathing, riding, fishing, and all the things that go to make life worth living.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

On May 17 and 18, the thirty-fifth annual meeting of the American Association of Genito-Urinary Surgeons was held in Cleveland, Ohio.

New England surgeons who presented papers were Dr. Arthur L. Chute, Boston, "Operative Technic in the Removal of Renal Calculi"; Dr. William Warren Townsend, Burlington, Vermont, "Solitary Cyst of the Kidney"; Dr. John H. Cunningham, Boston, "An Antiseptic Pyelographic Medium"; Dr. Richard F. O'Neil, "The Simultaneous Occurrence of Tuberculosis, Calculus and Papilloma in the Same Kidney, Report of a Case," and "Ectopic Kidney with Report of Two Cases"; Dr. Arthur H. Crosbie, "Double Kidney and Ureters"; Dr. William C. Quinby, "The Operative Treatment of Renal and Ureteral Calculi"; Dr. George Gilbert Smith, "A Later Estimate of the Value of Uretero-Colostomy in Cancer of the Bladder" and "The Surgical Treatment of Cancer of the Prostate"; and (by invitation) Dr. R. C. Graves, Boston, "The Physiology of the Ureter, with Especial Reference to Regurgitation of the Vesical Contents."

A very interesting operative clinic was given at the Lakeside Hospital by Dr. William E. Lower, the president of the association, and Dr. George W. Crile.

Dr. Richard F. O'Neil of Boston was elected president for the coming year.

Correspondence.

HEMOCLASTIC SHOCK.

Geneva, May 10, 1923.

Mr. Editor:

In 1913, Widal and his co-workers demonstrated that several clinical syndromes, of obscure etiology, were preceded by profound changes of the vasculo-sanguineous equilibrium. These changes they called

hemoclastic shock, comparable to anaphylactic shock, and are manifestations of a more or less rapidly acquired sensibilization of the organism.

In reality, the clinical manifestations greatly differ in different subjects, likewise the factors, giving rise to hemoglobinuria, urticaria, asthma, etc. On the other hand, the vasculo-sanguineous changes are always the same, only varying in intensity. The disturbances of blood equilibrium always precede the clinical symptoms, but the latter do not, of necessity, follow the hemoclastic paroxysm. Briefly, there can be a hemoclastic shock not invariably followed by clinical symptoms.

The elements composing the hemoclastic paroxysm are: Sudden leucopenia, a drop in the blood pressure, inversion of the leucocytic formula, hypercoagulability of the blood, a lowering of the refracto-metric index of the serum, etc. Of late, disturbances of the viscosity have been mentioned. The two principal elements of this reaction—and also the easiest to detect—are leucopenia and low blood pressure. The vasculo-sanguineous paroxysm usually follows closely on the action of the causative factor and evolves in from a few seconds to several minutes.

In the domain of surgery, Delbet and Quénu have given special study to shock from tissue absorption in wounds, and they noted that proteic shock can be realized perhaps by absorption of products of disintegration of human tissues. Roubier's case is referred to, in which shock followed the removal of a tourniquet, and although there was profound attrition of the tissues of the subject, such cases are interesting because they show that a heterogenous albumen is not essential to produce shock, or better still, that the albumens belonging to the individual himself may occasionally act like heterogenous albumens.

In their experimental researches, Cornioley and Kotzareff, of Geneva, have peremptorily demonstrated this traumatic shock. In their absolutely aseptic experiments, crushing of muscular masses invariably produced disturbance of the vasculo-sanguineous equilibrium, then clinical, ending in death of the animal. These experiments are interesting in respect of the recent communication made by Le Calvé at the Academy of Medicine of Paris. This observer noted a vasculo-sanguineous paroxysm following the removal of a ligature applied to a limb. It is also important to mention the researches undertaken on the disturbances of the vasculo-sanguineous equilibrium produced by blood-letting.

From these researches are derived important therapeutic indications. In the majority of cases studied by Widal and his co-workers, there was disturbance of the colloidal equilibrium, first manifested by the initial hemoclastic paroxysm, then by clinical manifestations varying according to the individual, as hemoglobinuria, asthma, etc. By his discovery, in 1907, of antianaphylactic vaccination, Besredka exposed the elements of treatment of these accidents, the most simple being the suppression of their cause when known, but this is neither easy nor possible.

In order to prevent the occurrence of major hemoclastic reactions an attempt is made to produce a succession of minor shocks, too small to act seriously on the organism, but capable of creating a sufficient state of temporary immunity. This is what takes place in antianaphylaxis when small, successive doses of serum are slowly injected. But in the case of natural predisposition or a diathesis, an attempt is made—given our ignorance of the exact causative factor—to obtain a more general action, and with this end in view some foreign proteic substance or even the patient's serum or blood is used. For this same purpose intravenous injections of crystalloids have been employed, which appear to act by modifying certain colloids of the body by rendering them to a certain extent heterogenous.

Another treatment utilizing colloidal shock consists in voluntarily provoking shock in an already diseased organism, as in infectious processes, by producing a crisis before its usual time, thus cutting short the disease. This procedure has been essayed by Widal, Abrami and Brissaud in cases of typhoid fever, and in some excellent results ensued by immediately arresting the bacteriemia, while in others it completely failed.

By placing a constricting band on a limb, Le Calvé attempts to obtain a therapeutic shock, but in these circumstances it is probable that the blood stasis caused the circulating plasma sufficiently to vary so that the extravasated products act as heterogenous bodies when they are absorbed. In fact, Widal has shown that a patient's serum when maintained at a temperature of 37° to 38° C. will produce shock when injected into the veins.

In this respect it is interesting to recall the treatment of pleurisy by subcutaneous injection of the pleural exudate, a type of autoserotherapy applied by Gilbert as far back as 1894. Professors Roch and Gautier, of Geneva, have recently noted that there is nearly always sudden leucopenia and vasculo-sanguineous crisis following shortly reinjection of the pleural fluid. They suppose that autoserotherapy is a proteinotherapy, the hemoclastic phenomena appearing to be independent of the inflammatory nature of the exudate, because they can be produced with the fluid of a hydrothorax.

Billaux has recently assimilated the action of dry cupping with that of autohemotherapy, the fluid collection in the subcutaneous cellular itssue acting like a subcutaneous injection of the patient's blood.

The action of dry cupping, like that of revulsives and derivatives, has given rise to discussion for ages. Hippocrates and physicians of all ages and countries have tried to discover the manner of action of revulsive treatment.

The work of Claude Bernard and François Frank have caused several observers to attempt to give an experimental basis to the study of revulsion and hence have examined the changes of the blood pressure, the red cell and leucocytic count, the pulse, respiration, respiratory gases, etc. The results have been for the most part contradictory, and for this reason Dr. Jules Droin (*Thesis, Geneva, 1923*) has published the results of his experimental work on a total of twenty patients offering every kind of morbid process. The following are his conclusions:

In the majority of cases under observation the application of dry cups provoked shock and a disturbance of the vasculo-sanguineous equilibrium. It would, therefore, appear that Billaux's hypothesis is likely and that the action of dry cupping can be compared with autoblood or autoserum injections. Hence revulsion may perhaps be a manner of autohemotherapy.

The shock resulting from cupping rarely produces clinical manifestations, but in two patients there were sweating, pallor and general weakness following the cupping. The clinical manifestations are naturally mild, because in cupping the injection is subcutaneous, while in autohemotherapy the intravenous route is generally employed.

Although it is premature to affirm that dry cupping only acts from an autohemotherapeutic action, it may be supposed that besides its revulsive or derivative action, in the strict sense of the word, we have here a new element which must be taken into consideration in every modern theory of revulsion and, perhaps, for a less empirical use of revulsives and derivatives.

CHARLES GREENE CUMSTON.

LONDON LETTER.

(From Our Own Correspondent.)

London, May 3, 1923.

Report on Recent Advances in Medical Education in England.—Sir George Newman, Chief Medical Adviser to the British Ministry of Health, has caused to be published one of these remarkable reports on health affairs written by himself. The author is a master of style and composition and combines great literary gifts with accurate knowledge of medical and health subjects. The latest report is more suggestive and important than most of the reports, valuable as they all have been. This one is concerned with the changes that have occurred within the past few years in the practice of medicine in England and the consequent changes which are about to take place in the medical curriculum. As a matter of fact, although there have been great advances in medical education here, the greater part of the advances and changes are to come. Education up to the present time has lagged behind practice. Sir George Newman sets forth the changes which have taken place as follows: "We have recently been the witnesses of four remarkable signs of progress: (a) a prodigious advance in public medicine, the public health service, sanitation, the care of the mother and the child, industrial hygiene, the health insurance system; (b) the systematic organization of medical research; (c) an ever-expanding growth of medical and surgical treatment; and (e) the steady reform of medical education out of these movements, and in general and in special practice, has thus come a new birth of medicine." The new medical curriculum which has just been revised by the British General Council is given in the appendix to the report but is too long to put down *in extenso* here. Suffice it to say that it is in keeping with the trend of medical practice now, which is preventive rather than curative or remedial. Therefore it is understood that the medical student must learn how disease begins and why, and what are its first signs, if he is to be equipped for his life's work, whether he becomes a private practitioner or a public health doctor. To diagnose disease in its earliest stage and by successful treatment to prevent it from developing is the conception of the practice of medicine held by Sir James Mackenzie. The new curriculum includes preventive medicine in all its branches. The report throughout is a discourse on preventive medicine and its future. It is declared therein that while obviously curative medicine and remedial surgery must have immediate priority, the ultimate goal is prevention. Also the British nation's chief medical officer makes it abundantly clear that the private medical practitioner is regarded as an outpost of the national organization of state medicine. Three of the most valuable chapters of the report deal with the recently established "Clinical Units." The component parts of a University Clinic are as follows: (a) An adequate whole-time and part-time staff; (b) the control of wards; (c) a proper and effective out-patient department; (d) ample laboratory accommodation for investigation; (e) adequate equipment for effective clinical work and teaching. Of course, not one of these components is new. Every medical school has them in some degree. What is new in Great Britain is their association together for specific purposes in a comprehensive self-contained clinic under a single command. The idea was taken from America and rendered possible in London by grants from the Rockefeller Foundation. Reference is also made to the Imperial and International School of Hygiene which the Rockefeller Foundation is about to provide in London and which the Government has promised to staff and maintain. It is pointed out it "will provide for the training and equipment of public health officers and for research in the various branches of preventive medicine."

But, to return to the Clinical Units, it is worthy of note, as emphasized in the report, that during the past two years upwards of sixty pieces of research work have been published by Clinical Unit staffs in London alone. Such work is helping to revolutionize modern medicine. Clearly, therefore, the future is big with change in this country in the character of the practice of medicine and consequently in medical education. The motif running through this most able and lucid exposition of the medical situation in Great Britain and forecast of its future is that preventive medicine has partly *come into its own* and before long it will have wholly come into its own, and further (and this is the most important feature of the report from the viewpoint of the medical profession), that this has come to pass under the guiding hand and with the aid of the state, and that the practice of medicine will be *controlled by the state* more and more as time goes on. Whether this is to the liking of the majority of the medical profession here it is hard to say. Little has been said on the subject by medical men up to the present time, although the methods of practice under the Insurance Act have been criticized severely. Perhaps the publication of this report will bring forth the views of the medical profession. In any event, it is plain that the practice of medicine is undergoing a revolution in England and that matters in this direction are only beginning to move.

Insulin and Its Distribution.—It has been stated recently that insulin has now been prepared in sufficient quantities to allow of its being placed on the British market. It has been further stated that the Medical Research Council has made some temporary stipulations as to the distribution of the substance. In a statement now published the Council gives details of the arrangements made. "The medical administrative problems of distribution," this document says, "have been submitted by the Council to the Minister of Health, within whose responsibility they properly lie." Having regard to the nature and urgency of the occasion, the Minister has appointed a small committee to advise him on the subject, composed as follows: Sir George Newman, chairman, Dr. R. A. Bolam, Sir Walter Fletcher, Sir Humphrey Rolleston, Dr. Alfred Salter, M.P., and Dr. McCleary, secretary.

On the advice of the committee appointed by the Minister of Health, manufacturers will be directed during the present period of restricted production to supply insulin only to those hospitals and to those registered medical practitioners who have proper facilities at their command for making accurate blood-sugar determinations. Each hospital and practitioner so supplied will undertake to observe the following restrictions upon the use of insulin: (1) Careful correlation will be made of diet, of the blood-sugar changes, and of the insulin dosage in each case. For at least one group of cases it is known already that the insulin dosage can be reduced progressively with suitable adjustment of diet. This reduction allows economy of insulin, besides the advantage it may bring to the patient. (2) Insulin will not be given to those whose symptoms can be controlled by moderate restrictions of diet. (3) It is understood, of course, that in emergency cases and apart from the careful correlation just mentioned, insulin will be given to those in diabetic coma or those nearly approaching it, and it may be given to those with diabetic symptoms needing special preparation for some surgical operation. (4) Care will be taken to avoid the danger of giving insulin to non-diabetic cases, that is, to patients with renal glycosuria. It will be gathered from the above that the greatest care must be taken in giving insulin both as regards dosage and the condition of the patient. A keen diagnosis is essential to learn what form or stage of diabetes is present. If insulin is administered without this knowledge it may do more harm than good.

or even be dangerous. Thus it would seem that the general practitioner who has no special knowledge of the subject is or should be debarred from administering insulin. It is clearly pointed out that it is dangerous to give the substance to patients who present symptoms simulating those of diabetes but who, in fact, are suffering from renal glycosuria. At present, at any rate, it appears that it is only safe for experts to prescribe and administer insulin. And, lastly, it must be borne in mind that so far insulin has been shown to be of temporary service and not a permanent cure. It is well to weigh and judge the pros and cons in the case of a remedy such as insulin.

Castles and Country Seats as Hospitals.—Owing to the fact, deplorable in many respects, that the owners of large estates in this country are too impoverished by the depreciation of their properties, due to the changed conditions of things, to keep up their big country houses, they are at their wits' end what to do with them. Most of these mansions, some of them of immense size, are empty and, of course, if not repaired externally and renovated internally at intervals will soon go to rack and ruin. Two large landowners in the north of England, the Marquis of Londonderry and Lord Boyne, have thought out a plan which may solve the difficulty in their cases. They have offered to present Seaham Hall and Brancepeth Castle, respectively, to Durham County, in which they are situated, for hospital purposes. The offers are to be considered at a public meeting in the city of Durham, held under the auspices of the local voluntary hospitals committee. Both Seaham Hall and Brancepeth Castle are admirably situated and easily adaptable as hospitals or convalescent homes, and were so used during the war. Brancepeth Castle was originally built before the Conquest and dates from an earlier period as a castle than any other in the country. Seaham Hall was closed by Lord Londonderry, owing to heavy taxation and the cost of upkeep.

Longevity.—Of the 37 persons whose ages were given in the deaths recorded on the front page of the London *Times* a few days ago, 26 were over the age of 70, including 14 over 80, one being 98, one 94, one 93, and one 90. The aggregate age of the 37 was 2720 years, an average of 73. A Mrs. Lister of Lincoln died three or four weeks ago aged 110, and a Mrs. Ayre died the other day, a week before her 102nd birthday.

Diseases of the Throat, Nose and Ear.—The book with the above title by Dr. Dan. McKenzie, a well-known nose, throat and ear specialist of London, and which was published by William Hienemann of London a short time ago, is having quite a vogue. It is eminently practical, well written and adequately illustrated. The same firm of publishers will bring out soon another book by Dr. McKenzie dealing with the psychology of smell and named "Aromatics and the Soul."

Death of Dr. Aarons.—Dr. Sol. Jervois Aarons of Harley Street, London, a well-known gynecologist, died suddenly in a nursing home after an operation on April 21, last. He was educated at the Universities of Sydney and Edinburgh, graduating with C. M., at the latter in 1895, becoming M. R. C. P., Lond., a few years later. He had held several appointments and was the author of a number of useful little books on gynecology. Dr. Aarons was best known among his colleagues for his work on sterility, on which subject he came to be recognized as one of the foremost authorities. In addition to being very successful in his specialty, he deservedly enjoyed the reputation of being one of the kindest of men. His colleagues and patients, indeed, all with whom he came into daily contact, cherished for him a lively regard.

Death of Sir Shirley Murphy.—Sir Shirley Murphy, K.B.E., F.R.C.S., died in London on April 27, last. He made his reputation in public health work, and especially as Medical Officer of Health for London. He was born in London in 1848 and was educated at University College School and afterwards at Guy's Hospital. He qualified in 1870 as a member of the Royal College of Surgeons of England, and was elected a Fellow of the College in 1909 in recognition of the good work he had done in sanitary science. It was one of his early ambitions to add to the knowledge of the behaviour of infectious diseases by the study of the adequate data afforded by a large population, and this ambition he amply fulfilled when he was appointed in 1889 by the first London County Council as its Medical Officer of Health. Many of the codes of health and by-laws in force in London were framed by the Council on his advice, and he was largely instrumental in securing the efficiency of sanitary administration in various parts of London. As a member of the Tuberculosis Commission appointed in 1895 to report on administrative procedure for controlling danger to man through the use as food of the meat and milk of tuberculous animals, Murphy rendered expert aid of the first importance. He was for some years secretary, and was twice elected president of the Society of Medical Officers of Health. He was also for many years secretary of the old Epidemiological Society, and became its president; he was awarded the Jenner Medal by the Royal Society of Medicine. He was a vice-president of the Royal Sanitary Institute and of the Royal Statistical Society, and he was awarded, in 1908, the Bisset Hawkins Medal for distinguished services to public health by the Royal College of Physicians. He was knighted in 1904. After his retirement from the office of Medical Officer of Health of the County of London and shortly after he ceased to be Consulting County Medical Officer came the war. He, at once, offered his services to the War Office, and was placed in charge of the Sanitary Services of the London area, with the rank of lieutenant-colonel, R.A.M.C., and resumed active work at Whitehall. In 1919, in recognition of these services, he was created K.B.E., and in that year he represented the government at the Congresses of the American Medical Association and of the Ontario Medical Association. In March, 1921, he was nominated by the Minister of Health as one of the managers of the Metropolitan Asylums Board. Sir Shirley Murphy personally was of a shy and retiring disposition but had a large circle of friends both in his profession and outside it.

NOTICES.

COMBINED MEETING OF THE BOSTON MEDICAL LIBRARY AND THE BOSTON ORTHOPAEDIC CLUB.

There will be a combined meeting of the Boston Medical Library and the Boston Orthopaedic Club, to be held at the Boston Medical Library, 8 The Fenway, on the evening of Thursday, May 31, at 8.15 o'clock. Speaker: Dr. Franz Shepherd, St. Elizabeth's Hospital, Washington, D. C. Subject: "Some Factors in Re-education for Spastic Paralysis." (Paper illustrated by motion pictures and lantern slides.) Discussors, Dr. R. W. Lovett, Dr. Stanley Cobb, Dr. J. W. Sever, Dr. Bronson Crothers.

BOVINE TUBERCULOSIS ERADICATION CONFERENCE.

GREETINGS FROM CONCORD CHAMBER OF COMMERCE.

Concord, the capital city of New Hampshire, looks forward with much pleasure to your attendance at the conference of the federal and New England live stock sanitary officials and allied health interests, to be held in Concord on June 12 and 13, 1923.

You are urged to attend this important conference as a splendid program has been arranged, including

some of the most eminent authorities in the United States and Canada, on the subjects which will be under discussion. A copy of the program will be forwarded at an early date, from the State Department of Agriculture.

As a community organization, the Chamber of Commerce opens wide the door, and a genuine hospitality is promised to all who come within the bounds of our city.

We are ready to assist you in securing rooms. Please make reservations early to Andrew L. Felker, Commissioner of Agriculture, State House, Concord, N. H.

You can support this important work by attending this conference, and we will support it by rendering any service within our power to make your visit a pleasure.

Cordially yours,
E. W. PORTER, *Secretary.*

NARCOTIC DRUGS.

The following notice has been sent to physicians from the Boston office of the Treasury Department:

Practitioners and dispensers of narcotic drugs are given until March 15, 1924, instead of June 1, 1923, to secure the new narcotic order forms which will be required by the Internal Revenue Bureau when provisions of a recent decision of the United States Treasury Department become effective.

By this extension of time all narcotic registrants are given sufficient opportunity to exchange the present order books for the new forms. The old books may be redeemed for new ones just as soon as sufficient supply has been received. New forms issued prior to March 15, 1924, will have to be prepared according to the new regulations.

As the recent decisions of the department contain modifications and variations of the existing regulations, Internal Revenue Collector Malcolm E. Nichols will have copies mailed to all registrants in Massachusetts, so that they may become familiar with the new requirements.

Among the more important changes effective with the advent of the new rulings is that which prohibits any person other than a manufacturer or wholesale dealer from securing more than one book at a time. The former method allowed registrants to procure as many books as desired at one time, the purchase of forms not having been limited.

Another feature, upon which the department places considerable emphasis, is that no corrections or alterations of any kind are to be made upon the new forms except in the office of the Collector of Internal Revenue. This does away with the practice of allowing registrants to change the addresses of their offices in case of removal during the time the book is being used.

Ruling is further given that no change may be made on an order by any person. The provision for an improperly prepared blank is to have it returned to the person who executed it. Each order so returned must be retained on file with the duplicate, and a new order prepared if the articles are still desired.

INVITATION TO PHYSICIANS.

Members of the medical profession are cordially invited to join in staff rounds on the medical service of the Peter Bent Brigham Hospital. These are held Saturday mornings from 10 to 12 in the medical wards. They consist of the demonstration and discussion of selected cases showing features of unusual interest or those on whom the diagnosis is not clear. Visitors can join in the visit for any part of this 10-to-12 period.

HENRY A. CHRISTIAN,
Physician-in-Chief, Peter Bent Brigham Hospital.

CASES REPORTED TO MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH.

WEEK ENDING MAY 13, 1923.

Disease.	*No. of Cases.*	*Disease.*	*No. of Cases.*
Actinomycosis	1	Ophthalmia neonatorum	14
Anthrax	1	Pneumonia, lobar	76
Chicken-pox	132	Scarlet fever	315
Diphtheria	138	Septic sore throat	2
Dog-bite requiring anti-rabic treatment	10	Suppurative conjunctivitis	11
Encephalitis lethargica	2	Syphilis	46
Epidemic cerebrospinal meningitis	3	Trachoma	2
German measles	21	Tuberculosis, pulmonary	149
Influenza	14	Tuberculosis, other forms	30
Gonorrhea	98	Typhoid fever	7
Measles	1159	Whooping-cough	296
Mumps	237		

WEEK ENDING MAY 19, 1923.

Disease.	*No. of Cases.*	*Disease.*	*No. of Cases.*
Anterior poliomyelitis	1	Ophthalmia neonatorum	15
Chicken-pox	175	Pneumonia, lobar	76
Diphtheria	103	Scarlet fever	357
Dog-bite requiring anti-rabic treatment	4	Septic sore throat	4
Encephalitis lethargica	1	Suppurative conjunctivitis	14
Epidemic cerebrospinal meningitis	4	Syphilis	36
German measles	23	Tuberculosis, pulmonary	132
Gonorrhea	87	Tuberculosis, other forms	34
Influenza	2	Typhoid	18
Hookworm	1	Whooping cough	305
Measles	1012		
Mumps	295		

SOCIETY MEETINGS.

The annual meeting of the Massachusetts Medical Society will be held in Pittsfield, June 12 and 13.

STATE, INTERSTATE AND NATIONAL SOCIETIES.

American Pediatric Society meeting, May 31, June 1 and 2, 1923, at French Lick Springs Hotel, French Lick, Ind.; H. C. Carpenter, Secretary.

June, 1923:—Annual Meeting of the Association of Women in Public Health will be held in Boston, June 18.

June, 1923:—The Nineteenth Annual Meeting of the National Tuberculosis Association will be held in 1923 in Santa Barbara, Calif., from June 20 to 23, inclusive, in the Recreation Center.

June, 1923:—American Medical Association, San Francisco, June 25-29, 1923; Olin West, Chicago, Ill., Secretary.

July, 1923:—Massachusetts Association of Boards of Health, July 26, Nantasket; W. H. Allen, Mansfield, Mass., Secretary.

October, 1923:—Boston Health Show will be held in Boston, October 6-13, inclusive.

October, 1923:—Meeting of the American Health Association will be held in Boston, October 8-13, inclusive.

For list of Officers of the Massachusetts Medical Society, see page vii of the Advertising Section.

NOTICE TO DIRECT SUBSCRIBERS.

Our mailing list has just been revised. If the JOURNAL does not arrive and you are entitled to receive it, please notify us. Please give full details about date of order, etc.